Successes & Failures in EU Cohesion Policy: An Introduction to EU cohesion policy in Eastern, Central, and Southern Europe

Musiałkowska, Ida (Ed.); Potluka, Oto (Ed.); Idczak, Piotr (Ed.)

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Ida Musiałkowska, Piotr Idczak, Oto Potluka

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Edited by
Ida Musiałkowska, Piotr Idczak, Oto Potluka

Managing Editor: Tomasz Grala

Associate Editor: Kinda Dahlan

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Introduction

Taking Stock and Drawing Lessons from EU Cohesion Policy for the Future

Central and Eastern European countries witnessed an artificial levelling of economic development, during a period of central planning, which lasted until the late 1980s. It revolved around both micro- and macro-economic levels that included regions within the countries. Nevertheless, disparities among such regions became increasingly critical during the transition period in the 1990s, due to the lack of a formal regional policy institutions definition at the time (Sucháček, 2018, p. 14). Polarization processes, relating to the development of growth poles and depopulation in some rural areas, made differences between capital cities and peripheral regions more pronounced (Smętkowski, 2018, p. 34). In turn, the regional policy evolved gradually into a standard policy tool to cope with discrepancies in economic development.

The Central and Eastern European countries were the next to cope with disparities after the countries and regions of Southern Europe (Greece, Portugal and Spain). The latter paved the way for the development of EU cohesion policy and other areas relating to a functioning common market. Accession to the European Union, for countries from geographic peripheries, brought new impulses for the institutionalization of regional policy in the countries in question.

The EU budget spends one-third on EU cohesion policy. This high-budget share not only confirms the importance of policies aiming at regional disparities in the EU—that is, in an attempt to make the EU cohesive—but it also made regional policy more interesting for national political elites. The EU Eastern and Southern peripheries are among the primary recipients of EU funding. For example, the Czech Republic has the highest allocation per capita (2007-2013), while Poland has the highest amounts allocated in each programming period compared to other member states. As a result, a multi-annual planning cycle has been drawn for individual programmes and implementation documents in these countries, based on programming documents from National Development Plans. Central public administration, representatives of regions, cities, municipalities, and representatives of non-governmental and non-profit organizations took part in the whole preparation process; rendering it different from central planning (Potluka 2020).

These analysed countries and regions tend to perform poorly across several rankings. This includes economic development, quality of government, social justice, and/or innovation potential (Rodríguez-Pose & Garcilazo, 2015). Despite this fact, these countries are the most in need of EU funds (ESIF), warranting the large amount of ESIF directed towards them to improve their rankings and make the EU more cohesive. This concentration forms a cohesion policy *laboratory* of peripheral countries.

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Successes and failures as a result of EU cohesion implementation, first from the southern part of the EU, and second from Central and Eastern Europe, are a valuable source of feedback for future plans. The whole implementation exercise is sometimes challenging to accomplish, as both the public and private sectors have low absorption capacity. In addition, side effects appeared as for example the creation of the so-called project-class, which based its economic activities primarily only on EU programmes (Kovách & Kučerova, 2009).

In contrast, positive experiences also emerged. Regions in Central and Eastern European countries witnessed improvements in the form of change in GDP per capita, benchmarked against the EU average during the years 2008-2015, while Southern Europe improved similarly between 2000-2008 (EC, 2017). This indicates that the concentration of funding was well allocated. In Central and Eastern European countries, ESIF makes up about half of all its public investment. In comparison, other EU countries, such as Portugal, Croatia, and Lithuania, public investment relies more heavily on ESIF (EC, 2017, p. xxii). If EU cohesion policy were ineffective, it would not be present on such a scale for decades.

In this volume, the authors cover a variety of aforementioned problems and experiences of either all member states, with special attention to peripheral countries, or to sectoral or regional problems in selected countries. The book begins with an overview of the issues of economic convergence and convergence of quality of life in all member states. It also addresses political aspects of cohesion policy, including involvement of civil society into this public policy, as well as relationships between cohesion policy support and EU identification.

Maciej Pietrzykowski (2020) analysed processes of economic convergence, focusing on cohesion policy, to demonstrate the results of examining the groups EU-13 and EU-15. He argues that during the entire period between 2000-2015, inequalities in the level of economic development were decreasing, both at the level of countries and at the level of NUTS 2 regions (Nomenclature of Territorial Units for Statistics; level 2 is also known as cohesion regions). The research confirms that convergence is more effective in smaller and less developed economies, which are the primary recipients of structural funds, even though they differ in pace of convergence. Not surprisingly, divergence appeared in the crisis years. However, regional and country economies started to converge by 2014. The author concludes with pointing out the relevance of the European Commission recommendations (EC, 2017) for the future. He asserts that only high absorption of structural funds combined strategically with constantly improving governance and administrative capacity can bring ongoing convergence in the EU. This must be supported with private and national funds' investments focused on high value-added areas.

Marcin Dąbrowski, Dominic Stead, and Bardia Mashhoodi (2020) raise the question of whether cohesion policy matters in EU countries. They underline how the EU identification and cohesion policy may only partly depend on the strength of policy support to the regions (e.g. Poland and Romania). In the southern regions, as well as in

the Czech Republic, the image is neither clear nor is the perception of the EU strongly positive, which may suggest that effects of crisis and austerity measures, as well as other socio-economic factors are significant (as in the case of Greece, which was one of the biggest beneficiaries of EU cohesion policy). The weak relationship between the EU funding and EU identification highlights challenges for cohesion policy and its potential impact on citizens' lives. Likewise, it highlights the weak communication of results from EU-co-financed investment in the regions. The problem needs further investigation with regards to the determinants of EU identification spatial patterns or factors influencing the examined relationship.

Panagiotis Liargovas and Stavroula Kratimenou (2020) investigate quality of life and convergence in composite indexes reflecting this important dimension that is undoubtedly supported by EU cohesion policy. From the analyses of all member states in the years between 1995-2015, two findings emerged: 1) Convergence stagnated between 1990-2000; and 2) that most of the countries achieved convergence between 2005-2015. Sweden, Finland and Denmark hold the top the ranks in quality of life index, while the countries of Eastern and South-Eastern Europe come in last. The authors recommend that European policy-makers should continue to provide financial resources to exert appropriate economic policies in countries facing difficulties and lagging behind in quality of life. This is in order to pursue a broader redistributive policy community. The designers of European Community policy should implement various financial assistance programs so as to diminish inequalities, support countries with low quality of life, and decrease regional disparities between member states. At regional level nonetheless, this may be a source of further political tensions.

Oto Potluka (2020) analyses the political aspects of cohesion policy implementation and participation of civil society in the process. Partnership principle is one of the most important principles to overcome democratic deficit. Nevertheless, the experiences of countries that have applied cohesion policy implementation reveal that the role of civil society is not always present equally in programming and implementation phases. The Czech Republic case study can be a useful reference for all countries from Central and Eastern Europe, and candidate countries confronting the legacy of post-communist or totalitarian regimes. It also underlines how pronounced involvement of non-governmental organisations in cohesion policy design will not improve the perception of the EU in a given country. To a degree, the findings correspond to the conclusions drawn by Dąbrowski, Stead, and Mashhoodi (2020). Moreover, the fragmentation of the organisations and relatively low capacities weakens the potential of partnership implementation. Therefore, one of the fundamental recommendations is the need for a strengthened long-lasting support from the European Commission towards civil society in the countries of Central Europe and their relationship with central governments.

The second part of the monograph presents a multidimensional view of EU cohesion policy on sectors, country case studies, and the use of financial instruments. It expounds subsidizing foreign investment process of the automotive sector in Central

and Eastern Europe with a special emphasis put on Romania and Poland. Gergő Medve-Bálint and Vera Šćepanović (2020) analyse under-researched relationship between foreign direct investment (FDI) and EU funds treated as investment incentives. The authors claim that the interaction between them is problematic because of the different purposes and logic of these two types of external funds. FDI is driven by market logic, while the EU funds are supposed to correct market failures. The authors examine whether the EU funds to the private (automotive) sector in Poland and Romania, between the years 2007 and 2013, are market-correcting or market-amplifying. The findings are twofold. First, there is some evidence for the market-correcting effects, because foreign multinationals receive a smaller portion of these funds relative to their share of employment and output of the sector, and there is no bias towards foreign companies once other firm characteristics are controlled for. Second, due to the peculiarities of the industry, where ownership, size, and productivity strongly coincide, half to three quarters of EU funds are spent on subsidies to multinationals. Moreover, the funds support routine capital investments instead of promoting innovative projects. The existence of a perverse mechanism in the distribution of EU funds in the region is therefore confirmed, and the use of "EU funds as investment incentives to foreign enterprises may also reinforce the negative developmental consequences of the dependent market economies" (Medve-Bálint & Šćepanović, 2020).

Györgyi Nyikos and Gábor Soós (2020) bring a broad perspective on the evolution of EU cohesion policy in Hungary. They underline the importance of the use of financial instruments as innovative tools introduced to complement grants. The authors see main problems and challenges leading to limited success of the policy in Hungary—one of the biggest beneficiaries of the policy. One of the main problems with the optimal use of EU support lies in "fundamental reorganizations of administration" (Nyikos & Soós, 2020). This has negative effects on the system, and high staff turnover remains a problem. Additionally, complex and frequent amendments of domestic legislation, aimed at simplifying matters, have created feelings of uncertainty. Pressure to expedite the use of funds, instead of choosing the best quality projects and potential corruption in granting EU funds, should be avoided to revitalize the economy of the country. Coping with the economic crisis has been another challenge in obtaining optimal results of the cohesion policy predicted in the development strategies. The authors formulate recommendations with regard to the use of financial instrument and draw a conclusion to prepare administration to work with this new type of instruments under cohesion policy as early as possible.

Judit Kalman (2020) analyses the Hungarian case, putting public and private resources for regional development in the 33 least-developed and most deprived micro-regions in the heart of her study (corresponding to LAU1 level of administrative division). The paper assesses the success of allocating extra-resources to the disadvantaged micro-regions. Its novelty is relying on business financial data for a better estimation of private investment activities, and in the spatial scale oriented towards the micro-region level. Since the majority of funds were flowing to more

developed regions, the need emerged to support the least developed regions. The results show that the program for targeting 33 micro-regions has induced some positive changes in the fund absorption capacities of these laggard areas through facilitating connections among local development actors and institutions. There were differences noted in per capita allocations, compared to data of the other 14 disadvantaged micro-regions not treated by this special program. Nevertheless, program coordination and execution need further improvements if continued. Proper targeting and a combination of public intervention with market forces, along with the strengthening of administrative reforms and human capital, seems to be crucial if the idea of space-sensitive and place-based territorial development and policy-making expressed by F. Barca (2009) is to be achieved in Hungary and other EU member states.

Finally, Piotr Idczak and Ida Musiałkowska (2020) add to the monograph presenting the experiences with the JESSICA initiative. It concerns revolving instrument designed for sustainable city development and regeneration processes. The chapter deeply analyse the results of implementation of all projects implemented in five Polish regions that have decided to apply JESSICA. The authors constructed a model of assessment of JESSICA that is based off of 5 contexts for sustainable development in urban areas: financial, economic, social, spatial and horizontal, that were transformed into dimensions of evaluation. The results show that not all dimensions were taken into account during the appraisal and later during project implementation. The most represented dimensions were the financial, economic and spatial dimensions. The approach for particular regions differed in terms of both institutional structure of the regional operational programmes, which used the resources of JESSICA, and in terms of the results achieved. The Zachodniopomorskie region was the best performing in terms of adjusting the projects' requirements to the theoretical assumption of the regeneration model. The Wielkopolskie, Mazowieckie and Śląskie regions were characterised by the projects of diverse quality, whilst the worst performer was the Pomorskie region. This diversification is an indirect result of a different approach to urban development funds towards selecting the projects. Another set of results show that projects that generate revenue are good representatives of the JESSICA-type interventions. The projects of higher value, generating revenue and coordinated by private entities are bringing more results in terms of all 5 aforementioned dimensions that assure the complexity of urban development. In any case, the authors assume that the institutional quality is significant with regards to programme and selection criteria design. However, this aspect needs further investigation.

The set of the research papers, their conclusions, and policy recommendations can be a basis for thoughts in both academic communities and for policy-makers dealing with regional development and planning, especially at the wake of the new programming period confronting European Union.

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Chapter I: **Cohesion Policy: Convergence, Perception & Society**

1 The Effectiveness of the European Union's Cohesion Policy in the Years 2000-2015

Maciej Pietrzykowski[1]

Abstract: The impact of the cohesion policy in the 2014-2020 framework is estimated to be approximately 450 billion euros. Such large intervention requires the effectiveness of high absorption and ongoing successes in achieving set goals. The aim of this paper is to examine the convergence of European Union economies at the national and regional levels (NUTS2), using the measure of unconditional convergence (β-convergence) and Pearson Correlation. Analysis was conducted for the periods covering the two most recent EU financial perspectives. A distinction has been made between convergence in "old" (core EU-15) and "new" (EU-13) Member States. Conclusions focus on discussing the results of the analysis and recommendations to enhance EU cohesion policy directions.

Key Words: local economic development, cohesion policy, convergence, divergence

1.1 Introduction

Cohesion policy is one of the key investment policies in the European Union. It focuses on less developed countries and regions, supporting the process of reducing economic, social, and territorial disparities that continue to exist in the EU. As indicated by the latest (seventh) Report on Economic, Social and Territorial Cohesion, the financial crisis and following recessions stunted long-term growth in the cohesion of the European Union, which was manifested in the stratification of levels of such indicators as GDP, GDP per capita, employment rate and unemployment rate (European Commission, 2017). The subsequent progressive recovery began to reverse this unfavourable trend, but the question remains as to what extent the applied intervention instruments and adopted priorities are appropriate, whether the aid and policy instruments are correctly addressed to the beneficiaries, as well as whether we can indicate some outcomes in terms of sustainability of the policy's implementation. Taking into account national contributions and private funds, the impact of the cohesion policy in the 2014-2020 framework is estimated to be approximately 450 billion euros, which includes cohesion policy funding of around

1 Department of International Competitiveness, Poznań University of Economics and Business, 61-875 Poznan, Wielkopolska, Poland. Correspondence: maciej.pietrzykowski@ue.poznan.pl

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350 billion euros. For 7 out of 28 European Union countries (including Poland) in the years 2015-2017, cohesion policy accounted for over 50% of public investment (European Commission, 2017). Therefore, the effectiveness of cohesion policy from the point of view of overcoming development disparities is an important issue; one which for many years has been the subject of research by scientists as well as a point of reference for the actions of politicians. Examining the success as well as the territorial impact from the implementation of the EU cohesion policy requires exploring whether the convergence has taken place in European Countries and Regions and whether there is a correlation between cohesion policy assistance and GDP measures.

1.2 Convergence in Research To-Date

Research into the convergence of countries had already begun in the 1980s. The classic and neo-classical growth theory suggests that rich and poor regions or countries will converge as they integrate, mainly due to diminishing returns to capital. Baumol (1986), who analysed data from 16 market economies, claimed that they were closer to one another compared to how they had been 100 years before. He also transferred his analysis to the sphere of politics, arguing that current economic phenomena cannot be considered without an in-depth analysis of historical facts. Additionally, he noted the *ad hoc* nature of economic policies, as these ignore certain long-term trends, which, in his opinion, are decisive for long-term sustainability.

De Long (1988) disputed Baumol's findings, claiming that they are not so obvious. He argued that economic processes, and in particular technology transfers, do not, in the long run, lead to complete convergence and a similar standard of living in all industrialized economies. What is more, as noted by Romer (1986), as early as in the 1980s, the gap between rich and poor countries may widen, which was later confirmed by further research (e.g. Razin 2007; Cingano, 2014). Already in the twentieth century research into economic convergence was used to assess the effectiveness of the European Union's cohesion policy. Rogut and Roszkowska (2006) examined conditional convergence in transition economies, concluding that although there was convergence in the analysed groups of economies, considerable differences continued to exist between the countries in terms of the level of economic development and long-term growth rates.

In addition, analyses of empirical data on labour productivity indicated that, in most cases, countries with a lower GDP per employee recorded a much higher growth rate in this macroeconomic variable than economies with fairly high labour productivity. In 2008, Esposti and Busoletti, analysing conditional convergence in 206 EU regions (2008), estimated the impact of cohesion policy (Objective 1) on the cohesion of these regions. They argued that this policy had a significant impact on regional convergence. Similar conclusions were reached by Eckey, Dreger, and Türck

(2009), who argued that convergence can be accelerated in new member states. Monfort (2009) attested to the convergence of regions in his research. However, he also indicated the possibility of growth poles appearing due to the development of urban agglomerations and the drainage of development factors from surrounding areas. In 1995, 70% of development disparities in the EU reflected disproportions between EU countries, the rest being regional disparities. This share dropped to 56% in 2005. In the EU-15, this figure decreased from 55% in 1980 to just 14% in 2005 (Bouvet, 2005).

In turn, Petrakos and Artelaris (2009) argued that opening markets and increasing competition must lead to the emergence of regional disparities. Therefore, there is room for applying intense regional policies within the national policies of individual countries, while cohesion policies should be responsible for cohesion at the level of countries. Smętkowski and Wójcik (2008) used β- and σ-convergence (vide Research method section) to analyse the convergence of regions, particularly in the countries of Central and Eastern Europe. They pointed to rather weak regional convergence and stressed that in most countries the intensity of regional convergence processes is low, although in smaller countries their level remains stable. Łaźniewska, Górecki, and Chmielewski (2011), who analysed regional data for Central and Eastern European countries, also stated that although convergence does occur, it is accompanied by a high variance in GDP per capita, which may be a consequence of strong agglomeration effects. Mikulić et al. (2013) analysed regional data for the NUTS 2 and NUTS 3 levels in the EU and Croatia in 2001 and 2008, indicating that national convergence is stronger than regional convergence. Jóźwik (2014), who analysed regional data, argued that the poorer regions of Central and Eastern Europe tend to develop faster than rich regions—although this principle is not universal in terms of either scope or time. Periods of economic crisis are characterized by an increasing standard deviation of the natural logarithms of regional GDP per capita, which amounts to a variation in GDP value and thus divergence.

On theoretical grounds, the effectiveness of cohesion policy is the subject of frequent disputes, mainly between the neoclassical school and advocates of the endogenous growth theory (cf. Beck and Grodzicki, 2014; Jóźwik, 2014; Kisiała, 2016). The proponents of the neoclassical growth theory, based on the Solow models, assume diminishing marginal capital productivity, which should result in diminishing disproportions between rich and poor countries in the long term. On the other hand, the advocates of the endogenous theory, in particular the so-called new economic geography (Krugman, 1991), argue that in fact the majority of factors favour divergence processes. Trade integration can result in a "core-periphery" structure, with spatial concentration of increasing returns to scale industries in the core Europe and constant returns to scale industries at the peripheries (Rodokanakis, 2006). This concerns mainly the economies of agglomeration, which occur in three forms (Gawroński, 2010) as follows:

- Economies of scale – lowered production costs as a result of increased production levels,
- Localization economies – concentration of companies from the same industry/sector in the same area leads to creating 'place brands',
- Urbanization economies – diversity and availability of labour force and market, as well as technical, social and administrative infrastructure.

Cities and metropolises tend to attract and concentrate investment as well as the factors of production that follow them. A consequence of this is the emergence of growth poles within these agglomerations and a shift of the development processes from peripheral areas, or even the draining of their resources (cf. Perroux, 1950; Hite, 2004; McCann and van Oort, 2009; Gaczek, 2010; Domański, 2012; Markowska-Przybyła, 2010; Markowska & Strahl, 2012; Jabłoński, 2012; Kusideł, 2013). It is also emphasized that, because regions have strong links with their neighbours (both close and distant), they are much more susceptible to various shocks (e.g. cyclical). Also, the mobility of the factors of production is greater at the level of regions than countries (Beck & Grodzicki, 2014: 16), which intensifies the divergence processes that are additionally compounded by the consequences of reducing transaction costs as well as technological changes. Finally, Magrini (2004) argued that failure to include geographical factors in the analyses, and in particular spatial factors, must lead to false conclusions.

Thus, a solution seems possible, which to a certain extent combines the two theoretical approaches, namely—that there is a real convergence between the economies of countries, although at the level of regions differences may increase. This would largely justify the legitimacy of implementing a cohesion policy at the EU level, leaving the issues relating to reducing regional disparities to national politicians. Therefore, it seems reasonable to review whether, during the European Union's last two financial perspectives (2000-2006 and 2007-2013), convergence in the economies of the EU-28 countries and regions occurred, and consequently, whether a cohesion policy implemented in the form of significant fund-transfers to economically weaker countries and regions reduced economic discrepancies in particular countries and regions.

1.3 Research Method

Real economic convergence assumes that economies become similar in terms of their level of development, which can be measured in various ways. The most common measures are GDP per capita and average labour productivity. This approach to convergence is called σ-convergence and refers to a reduction in the dispersion of the examined feature (e.g. GDP per capita) in a given group of economies. The second

basic measure of convergence entails the relationship between the average rate of index growth determining the level of development and its initial value—which is connected with the concept of 'catching up' and closing the development gap between underdeveloped and developed economies. There are two types of this measure: first, unconditional (absolute) convergence, which assumes that all economies strive towards the same level of wealth within the long-term equilibrium; and second, conditional convergence, which assumes an individual path for each country, depending on the characteristics of its economy. The two concepts of convergence are interrelated: β-convergence is a necessary but an exclusive condition for the occurrence of σ-convergence (Nowak, 2007: 75).

The aim of this paper is to examine the convergence of European Union economies at the national and regional levels (NUTS2) using the measure of unconditional convergence (β-convergence). The analysis of β-convergence was popularized by Barro and Sala-i-Martin (Barro, 1992; Sala-i-Martin, 1996; Sala-i-Martin, 1996a; Sala-i-Martin, 2002). However, despite criticism from some researchers (eg. Friedman, 1992; Quah, 1996; Wójcik, 2008) and some of its known limitations, β-convergence is still commonly used (Alexe, 2012; Czasonis, and Quinn, 2012; EEAG, 2010; Grzelak and Kujaczyńska, 2013; Kaitila et al., 2007; Schadler et al., 2006; Siwiński, 2012; Walczak, 2012). In order to verify the hypothesis about the occurrence of absolute β-convergence, the following equation was estimated (Matkowski & Próchniak, 2013):

$$\frac{1}{T} ln \frac{y_T}{y_0} = \alpha_0 + \alpha_1 ln y_0 + \varepsilon_t$$

Linear regression was used for the estimation of the equation, which makes it possible to estimate the conditional value of the expected explanatory variable for the specific values of the independent variables. The dependent variable was the average rate of growth of real GDP per capita in the period between T and 0; the independent variable was the logarithm of the initial value of GDP per capita; and ε_t was the random component. A negative and statistically significant value of the α_1 parameter signifies the existence of β-convergence. If that is the case, the value of the β coefficient, which measures the convergence rate, can be calculated using the following formula:

$$\beta = \frac{-1}{T} ln\,(1 + \alpha_1 T)$$

The β parameter denotes the average rate of convergence/divergence over each period, expressed as a percentage. The higher the value of the parameter, the faster the differences disappear. Once the value of the β coefficient is known, it is possible to calculate the half-life coefficient, referred to as the half-convergence period and described by the formula $hl = \ln(2)/\beta$. This coefficient shows how many years it takes

to reduce the differences in the set of observations by half. To prove that convergence occurs as a result of the intervention of the cohesion policy, Pearson Correlation has been calculated between cohesion policy intervention (CF, ERDF and ESF) and both real GDP per capita and GDP per capita based on PPS.

1.4 Results

Estimation of the regression model was performed in several variants. The first differentiating criterion was the level of data aggregation: the parameters were estimated separately for the 28 current EU member states and for the 276 regions of the NUTS2 level (The Nomenclature of Territorial Units for Statistics 2013). The next criterion was the exchange rate: the parameters for nominal GDP per capita were estimated then converted to real terms using the GDP deflator at the level of prices for the year 2000; and in the second case, GDP per capita based on purchasing power standards (PPS) was used. Analysing purchasing power parity better reflects the nature of real economic processes as it takes into account the purchasing power of the population of a given country. In addition, different periods corresponding to specific financial frameworks were distinguished (using the n+2 rule): two EU financial frameworks together - the years 2000-2013 (Table 1); the 2000-2006 framework (Table 2); and the 2007-2013 framework (Table 3). The addition of two years to each framework is justified on the one hand, because of the adopted settlement period of investment projects, and on the other hand, due to the period of transmitting the effects of economic policy to the real sphere. As a result, several models have been estimated, which are presented below in Table 1.

The results presented in Table 1 indicate the occurrence of economic convergence for the analysed units in each variant, excluding "club convergence"—EU15 and EU13 (the values of the convergence coefficient are in each case negative). The convergence process, in terms of purchasing power parity, occurs much faster than if the current exchange rate is taken into account. It is also confirmed that convergence at the level of countries, in each approach occurs faster than at the level of regions. All the observations are statistically significant (for EU-28 countries and regions), and the model explains approximately 45% of the variance for the model relating to the regions of EU countries, as well as about 2/3 of the variance for the model relating to the EU countries themselves. The Durbin-Watson test indicates a negative autocorrelation of the random component. Excluding observations relating to Luxembourg and Ireland, which showed the greatest deviation from the trend, increased the fit of the model to R^2=0.830 (PPS). Similarly, excluding the three most divergent observations from the model, estimated at the regional level (Bucuresti-Ilfov, Bratislava Region, Inner London-West), increased the degree of fit to R^2=0.507 (PPS). Additional calculations

Table 1: Results of the estimation of the absolute β-convergence regression equation in EU countries between the years 2000-2015.

Regression model	Absolute term		Convergence coefficient		R^2	β	hl	Durbin-Watson statistic
	α_0	p-value	α_1	p-value				
NUTS2 regions (PPS)	3.404	0.000	-0.309	0.000	0.450	2.46%	28.130	0.845
NUTS2 regions (current exchange rate)	1.754	0.000	-0.164	0.000	0.443	1.19%	58.044	0.695
EU-28 countries (PPS)	4.498	0.000	-0.410	0.000	0.657	3.52%	19.705	1.740
EU-28 countries (current exchange rate)	2.229	0.000	-0.207	0.000	0.626	1.55%	44.829	1.758
NUTS2 Regions EU-15 (PPS)	0.378	0.000	-0.008	0.000	0.004	0.05%	1294.445	0.847
NUTS2 Regions EU-13 (PPS)	3.136	0.000	-0.265	0.000	0.273	2.05%	33.770	1.389
NUTS2 Regions EU-15 (current exchange rate)	0.544	0.007	**+0.064**	0.002	0.004	-	-	0.924
NUTS2 Regions EU-13 (current exchange rate)	1.472	0.000	-0.120	0.001	0.160	0.85%	81.334	1.240
EU-15 countries (PPS)	-2.103	0.110	**+0.242**	0.067	0.176	-	-	1.958
EU-13 countries (PPS)	6.339	0.000	-0.609	0.000	0.827	6.26%	11.072	2.078
EU-15 countries (current exchange rate)	-1.417	0.104	**+0.152**	0.081	0.156	-	-	1.822
EU-13 countries (current exchange rate)	2.931	0.000	-0.288	0.001	0.646	2.26%	30.609	2.053

Source: Own compilation based on Eurostat data

for the so-called "club convergence", separating observations between the "old" (core EU-15) and "new" (EU-13) European Union countries were also done, adopting, as a turning point, the year 2004. 2004 in turn, marked the entry of 10 new countries into the EU with three more countries joining in subsequent years[2]. The results indicate a much greater fit for the country regression model of the new member states (R^2=0.878 vs. R^2=0.117 for GDP based on PPS in the years 2000-2015).

Moreover, in the case of the "old" (core) EU countries, divergence in economic development can be observed as evidenced by the positive value of the α_1 coefficient.

2 The three countries have not used the structural funds on a full scale, which has an impact on the analysis as well

This confirms the results of earlier research, which showed that convergence occurs at a higher rate in smaller and less-economically developed countries. However, it must be noted that in most cases the results of the EU-15 analysis were statistically insignificant (p-value >0.05). In the case of country-level analysis for EU-15 and EU-13, we have a low sample size, which means that the results of regression analysis should be followed with caution. The results are similar to those presented in Table 2, where the period of the 2000-2008 financial perspective has been analysed Although, in this case, the value of the β coefficient indicates a faster catch-up rate for almost each of the analysed cases. Also, the fit of the model is particularly high, especially at the level of EU countries.

Table 2: Results for the estimation of the absolute β-convergence regression equation in EU countries in the years 2000-2008.

Regression model	Absolute term		Convergence coefficient		R^2	β	hl	Durbin-Watson statistic
	α_0	p-value	α_1	p-value				
NUTS2 regions (PPS)	2.589	0.000	-0.234	0.000	0.493	3.33%	20.802	1.062
NUTS2 regions (current exchange rate)	1.464	0.000	-0.134	0.000	0.567	1.80%	38.543	1.033
EU-28 countries (PPS)	3.664	0.000	-0.337	0.000	0.772	5.14%	13.493	1.675
EU-28 countries (current exchange rate)	1.901	0.000	-0.175	0.000	0.776	2.40%	28.825	1.170
NUTS2 Regions EU-15 (PPS)	1.048	0.000	-0.081	0.000	0.097	1.06%	65.647	0.968
NUTS2 Regions EU-13 (PPS)	2.272	0.000	-0.192	0.001	0.173	2.66%	26.010	1.040
NUTS2 Regions EU-15 (current exchange rate)	0.537	0.000	-0.42	0.002	0.040	6.81%	10.180	0.989
NUTS2 Regions EU-13 (current exchange rate)	1.184	0.000	-0.096	0.002	0.148	1.26%	54.943	1.190
EU-15 countries (PPS)	0.002	0.998	+0.026	0.690	0.063	-	-	1.715
EU-13 countries (PPS)	0.110	0.800	+0.002	0.966	0.077	-	-	1.708
EU-15 countries (current exchange rate)	3.821	0.023	-1.520	0.000	0.885	-	-	1.428
EU-13 countries (current exchange rate)	2.277	0.000	-0.218	0.000	0.663	3.07%	22.590	1.572

Source: Own compilation based on Eurostat data

The next Table presents results of the analysis for the 2007-2013 financial perspective.

Table 3: Results for the estimation of the absolute β-convergence regression equation in EU countries in the years 2007-2015.

Regression model	Absolute term		Convergence coefficient		R^2	β	hl	Durbin-Watson statistic
	α_0	p-value	α_1	p-value				
NUTS2 regions (PPS)	1.372	0.000	-0.127	0.000	0.152	1.70%	40.827	0.522
NUTS2 regions (current exchange rate)	0.536	0.000	-0.540	0.000	0.118	9.71%	7.141	0.516
EU-28 countries (PPS)	1.705	0.007	-0.156	0.011	0.221	2.12%	32.695	2.002
EU-28 countries (current exchange rate)	0.619	0.023	-0.061	0.029	0.171	0.79%	88.103	2.389
NUTS2 Regions EU-15 (PPS)	-0.609	0.015	+0.065	0.008	0.027	-	-	0.540
NUTS2 Regions EU-13 (PPS)	1.405	0.000	-0.121	0.001	0.173	1.61%	42.966	1.019
NUTS2 Regions EU-15 (current exchange rate)	-1.056	0.000	+0.102	0.000	0.142	-	-	0.742
NUTS2 Regions EU-13 (current exchange rate)	0.527	0.010	-0.047	0.043	0.056	0.60%	115.188	0.753
EU-15 countries (PPS)	-1.781	0.114	+0.179	0.100	0.132	-	-	1.845
EU-13 countries (PPS)	-1.278	0.103	+0.123	0.107	0.125	-	-	2.496
EU-15 countries (current exchange rate)	3.942	0.003	-0.384	0.004	0.547	6.06%	11.445	1.304
EU-13 countries (current exchange rate)	1.157	0.041	-0.121	0.054	0.234	1.61%	42.996	1.206

Source: Own compilation based on Eurostat data

The values of the α_1 convergence coefficient are negative. As such, also in this case, they indicate gradual convergence of the analysed units. However, it is worth noting the fit of the model analysed for this period is much lower than in the case of the previous financial framework. The results are still statistically significant (at EU-28 level), but the distribution of residuals indicates the presence of a significant disturbance in the model. One reason for this may be the repercussions from the 2008 financial crisis, which caused considerable economic perturbations, affecting the real economic situation of individual countries in different ways. On one hand, there is

Poland, which suffered relatively mild consequences as a result of the crisis, but was also quick to recover. On the other hand, there are countries such as Greece, Ireland, Spain, Portugal and Italy (the so called PIIGS group), which severely experienced the effects of the crisis and fell into substantial debt; as well as countries such as Slovakia and the Czech Republic, whose economies are based on exports for which the crisis meant a significant decline in GDP; and countries such as Latvia, which resorted to "internal devaluation" in order to regain long-term competitiveness, even though, in the short term, this resulted in a significant deterioration in the real standard of living of its population. To demonstrate the relation between cohesion policy intervention and the level of GDP of EU Countries and regions, the Pearson Correlation has been calculated separately for every country and region. Average rates are presented in Tables 4 and 5.

Table 4: Results for the estimation of average correlation between cohesion policy intervention and GDP per capita measures in EU Countries in the years 2000-2015.

	Cohesion policy/real GDP per capita	**Cohesion policy/ GDP per capita based on PPS**
All Countries	0.355	0.412
"Old" Core Members (EU-15)	0.103	0.107
"New" Member States (EU-10, joined in 2004)	0.654	0.766
"New" Member States (EU-13)	0.646	0.763

Source: Own compilation based on cohesion data

Table 5: Results for the estimation of average correlation between cohesion policy intervention and GDP per capita measures in EU Regions (NUST2) in the years 2000-2015.

	Cohesion policy/real GDP per capita	**Cohesion policy/ GDP per capita based on PPS**
All Regions	0.285	0.274
"Old" Core Members Regions (EU-15)	0.168	0.131
"New" Member States Regions (EU-10, joined in 2004)	0.735	0.820
"New" Member States Regions (EU-13)	0.726	0.813

Source: Own compilation based on cohesion data

Taking all EU countries and regions into account, there is a weak correlation between cohesion policy intervention and GDP measures, which corresponds with conclusions of the report on Data Review and Mapping of Cohesion Policy Implementation and Performance (Gorzelak et. al, 2017). However, limiting calculations for the countries and regions that do receive significant structural and cohesion funds (EU-13, countries that joined after 2004), the correlation is quite significant: higher for GDP based on PPP, and also higher on the regional level. Exceptionally high correlation has been noticed in the case of Poland, the current largest beneficiary of cohesion assistance, respectively 0.903 and 0.902 for countries, and 0.836 and 0.834 average for regions.

1.5 Conclusion

In light of research results, it can be concluded that inequalities in the level of economic development were decreasing during the entire period between the years 2000-2015, as well as in the specific periods corresponding to EU financial frameworks; both occurring at the level of EU-28 countries and at the level of NUTS2 regions measured for EU-28. The research also confirms that convergence is more effective in smaller and less developed economies, which are the primary recipients of structural aid. One possible explanation is that the cohesion policy was effective in terms of the objectives it was designed to achieve, whereby correlation rates confirmed the possibility for "new" Member States.

Nevertheless, the pace of economic convergence, at the level of both regions and countries, was substantially different, depending on the methodology used; although, in general, it can be considered weak or, at best, moderate. When considering GDP per capita, based on purchasing power parity, the catch-up time was much shorter than when using data calculated on the basis of the current exchange rate. The regression models calculated for the NUTS2 regions (EU-28) show a much lower level of fit, although they still remain statistically significant. This may indicate that a cohesion policy is considerably more effective on a macro scale than at a regional level. The lower rate of regional convergence can certainly be attributed to agglomeration economies, the emergence of growth poles, and the phenomena analysed within the scope of economic geography—or the integration of markets, globalization, technology transfer etc. Even so, further analysis would be necessary to confirm this assertion.

The financial crisis of 2008 and the ensuing double recession in 2008 and 2011 significantly distorted the models' predictions, which can be clearly seen in the decreasing fit of the models estimated for the period 2007-2015. As indicated by the 7th report on economic, social and territorial cohesion (European Commission, 2017) and empirical studies (e.g. Jóźwik 2014), long-term disproportions in GDP per capita increased during this period and started to decrease at the end of 2014, when the EU economy entered a phase of strong recovery. The heteroscedasticity of the random

component in most of the analysed cases indicates the need for further analysis in order to improve the model fit and take into account other factors. As so, conditional convergence merits consideration (c.f. Rogut and Roszkowska, 2006), which takes into account a number of other factors affecting the level of long-term equilibrium. For example, savings behaviour, migration, birth rate, access to technology, government economic policies and their effects, to list but a few. In further research, it may also be worth examining spatial aspects in order to determine the impact on economic results of operating in a specific location and a specific community. "Club convergence" leads us to less obvious conclusions: the convergence in the new member states is faster; in the case of the "old" EU countries we even notice divergence, but the results are not conclusive.

Recommendations from the 7th report on economic, social and territorial cohesion on directions for EU cohesion policy for the following years seem to be accurate (European Commission, 2017). A large portion of funds has been invested in infrastructure in new Member States. Now it is time, to focus on less-infrastructural areas, where the highest EU value-added can be achieved, like social inclusion, healthcare, climate change, energy issues, employment skills, research and innovation. The cohesion can be boosted by further reforms on improving institutional quality, government and administrative capacity, which is indirectly linked to cohesion policy tools. Only by combining high absorption of structural funds with constantly improving governance and administrative capacity, supported with growing contribution of private and national funds' investments focused on high value-added areas, can a desired effect and ongoing convergence be achieved.

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2 Regional Variation in EU Identification in the Southern and Eastern Peripheries of Europe: Does Cohesion Policy Matter?

Marcin Dąbrowski, Dominic Stead, Bardia Mashhoodi[3]

Abstract: EU cohesion policy, supporting a variety of projects that support regional economic development and contribute to betterment of quality of life, can be considered as a tool that is contributing to the development of a 'sense of community' among the EU citizens and shaping the perceptions of the EU. By investing in projects across the European territory, the policy has a direct impact on people's daily lives and their environment. Whether and how exactly EU cohesion policy actually affects what people think about the EU remains unclear, particularly at the regional level where the policy has the most direct and palpable effects. The chapter addresses this knowledge gap by exploring the regional variation of EU identification across the regions of southern and eastern Europe. This focus is particularly relevant given that these countries are the main beneficiaries of EU cohesion policy. At the same time, many of these countries are experiencing tumultuous political developments tilting the governmental discourse towards sceptical or even hostile positions towards European integration, which is not necessarily in line with citizens' views on the EU. The study uses Euro-barometer surveys from 2015 to explore how opinions about EU image and attachment to EU vary across southern and eastern Europe. The analysis identifies clusters of regions with similar patterns and then tries to relate these clusters to the possible role of cohesion policy in the emergence of these regional patterns.

Keywords: European Union; identification; attachment; regions; citizens; Southern Europe; Eastern Europe.

2.1 Introduction

The European Union (EU) has been battered by a series of crises since the late 2000s: from the global economic crisis and its European aftershocks, to the Eurozone crisis, and from the migration crisis, to the rise of the anti-European populist movements. As a result, the tone of public debate on the EU has become more critical and pessimistic, denting support for European integration among citizens. Reflecting these shifts,

3 Department of Urbanism, Faculty of Architecture and the Built Environment, Delft University of Technology, Julianalaan 134, 2628BL Delft, The Netherlands. Correspondence: m.m.dabrowski@tudelft.nl

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the discourse on cohesion policy has also evolved from an emphasis on the need to reduce territorial disparities across the EU towards an emphasis on the improvement of daily lives for all EU citizens.

Shortly after the 'big bang' Eastward enlargement of the EU, the then Commissioner for Regional Policy, Danuta Hübner, argued that "cohesion policy aims to facilitate structural change throughout Europe, and to enable regions to respond more effectively to the opportunities generated by the world's largest single market [...] We cannot afford to leave behind even the smallest region. All of them should contribute to raising Europe's growth and competitiveness." More recently, in the post-crisis context, the discourse shifted dramatically, as illustrated by this quote from a speech by Commissioner Corina Creţu from 2017:

> [C]ohesion policy is the most visible, the most tangible illustration of a caring Europe. It improves the daily lives of all citizens, wherever they live [...]. Cohesion policy is the cement that holds Europe together, because it cares for individuals, because its aim is to improve everybody's life.[4]
>
> Corina Creţu, 2017

Echoing the discursive shift, the EU increased its efforts to make EU cohesion policy more visible to citizens, not least to counteract the declining support for European integration and combating the rise of anti-EU populism. For instance, in 2017, the Council of the EU adopted conclusions on "making Cohesion policy more effective, relevant and visible to our citizens,"[5] while the European Parliament urged for greater visibility of cohesion policy "to fight against Euroscepticism" and "contribute to regaining citizens' confidence and trust."[6]

The actual impact of cohesion policy on citizens' attitudes towards the EU remains unclear and contested. Early research by Duch and Taylor (1997) on this topic found that cohesion policy transfers did not translate into increased support for European integration, with the poorer regions benefiting from more substantial transfers remaining less 'euro-enthusiastic,' even if the data for this study predated the actual establishment of cohesion policy in 1988. In contrast, later studies painted an ambiguous picture. Positive effects of the size of allocation of structural funds on public support for the EU were found, albeit mediated by the degree of awareness of the EU funding, which in turn was related to the level of education (Osterloh, 2011). A more recent study found that there was no direct link between the size of European

4 Commissioner Corina Creţu's speech in Molenbeek, Belgium, 6 June 2017: https://ec.europa.eu/commission/commissioners/2014-2019/cretu/announcements/speech-commissioner-cretu-molenbeek_en

5 "Making Cohesion Policy more effective, relevant and visible to our citizens", 8463/17, adopted by the Council of the EU on 25 May 2017.

6 "Report on Building Blocks for a Post-2020 EU Cohesion Policy", 2016/2326(INI), European Parliament, 24 May 2017.

Regional Development Fund allocation and EU support, and that the effect of this funding was, at best, conditional upon pre-existing EU identification and education levels (Chalmers & Dellmuth, 2015).

More importantly, cohesion policy offers support for regional development and is, to a large extent, managed and implemented at the regional level, with varying sizes of allocation, governance approaches, thematic focus of spending, absorption rates and effectiveness. Consequently, one may expect differentiation in the impacts of cohesion policy on the citizen's attitudes vis-à-vis the EU across different regional settings. Before one considers whether and how cohesion policy affects EU identification, therefore, we need a clearer understanding of the regional dimension of that phenomenon, while most studies and surveys on EU identity to date tend to focus on the national level.

Before unpacking EU identification at the regional level, the nature of the concept is briefly outlined. Broadly, scholars investigating the notion tend to consider three dimensions of EU identification: (i) cognitive; (ii) evaluative; and (iii) affective (for a review, see for example Mendez & Bachtler, 2016). The cognitive dimension refers to the perception of one's self as European. The evaluative aspect refers to the more 'utilitarian' dimension of support based on the perceived benefits stemming from European integration. Finally, the affective dimension corresponds to the 'we-feeling,' or feelings of belonging to a (European) community.

What factors can shape EU identification along those two dimensions? Can EU cohesion policy be an important factor? The evaluative dimension of EU identification can in fact be related to EU policies that have a direct impact on citizens' lives. The most prominent example of this could indeed be cohesion policy, supporting a variety of projects that support regional economic development and contribute to betterment of quality of life. Investments in regions, where the project sites are marked with banners with EU flags and acknowledgement of EU funding, are perhaps the most visible and physical manifestation of benefits that the EU can bring to citizens' daily lives and their immediate living environment. At the same time however, EU cohesion policy can be considered as a tool that is contributing to the development of a 'sense of community' among the EU citizens and thus shaping the affective aspect of EU identification. Even so, whether and how exactly EU cohesion policy actually affects what people think about the EU remains unclear, particularly at the regional level where the policy has the most direct and palpable effects.

Clearly, cohesion policy is just one among many other EU policies and rules that may have an impact on EU identification. A few examples of other EU policies and rules are briefly illustrated here. First, the Common Market and its freedom of movement of people and labour, which offers unprecedented opportunities for mobility, tourism, and improvement of living conditions through working and living in another EU country, could potentially have impacts both on the affective and evaluative dimensions of EU identification. Second, the Erasmus programme, which supports student mobility and gives its beneficiaries often a first experience of

learning, socialising, and living in a different European country at a critical formative period of life, could have impacts on the affective dimension of EU identification. Third, EU regulations related to cellular phone roaming charges within the EU, allowing citizens to pay the same rate for mobile telecommunication services across the EU as they do in their home country, is a material benefit for citizens that may influence the evaluative dimension of identification.

Meanwhile, the EU's actions, and developments related to it, may also have negative impacts on how the citizens identify with it. Here, the most prominent example is the territorially uneven impact of the global economic crisis and the subsequent sovereign debt crisis and austerity measures in the Eurozone, affecting mostly the Southern Member States and especially the less resilient regions within them—as was the case in Greece, for instance (Yannis, Dimitris, & Panagiotis, 2014). EU image in the areas most affected by these developments, such as Greece, has severely deteriorated, as evidenced by the raise of Eurosceptic populist movements across European regions (Dijkstra et al. 2019, Smętkowski & Dąbrowski, 2019).

The strength of the influence of many of the above actions on citizens' identification is very likely to be differentiated across the European member states and, critically, across territories. It might be expected that cohesion policy could have the most impact on what people think about the EU in the less developed regions that receive substantial allocations of European Structural and Investment Funds (ESIF), mainly concentrated in the Southern and Eastern EU Member States. At the same time, the negative effects of the economic post-2008 meltdown and the Eurozone crisis (with the subsequent EU-induced austerity measures), as well as of the migration crisis, are also felt more in certain regions, depending on their socio-economic situation and location on or off the main migration routes from the Middle East or Africa.

This chapter explores and classifies EU identification at the regional level. In other words, it seeks to shed light on how identification varies across the regions of the EU's 28 Member States and to identify the patterns in this variation. The study draws on the H2020 COHESIFY[7] project and uses Eurobarometer surveys as a source of data for the analysis. The typology of regional EU identification produced by this research offers a more nuanced view than in most studies on EU identification focusing on national level by: (1) investigating, for the first time how citizens view the EU at the regional level in a post-crisis context, and (2) by bringing together the two perspectives on EU identification, the evaluative (rationalist) perspective and the affective one. Beyond this, the typology allows for comparing EU identification patterns across European regions. This allows for pondering the extent to which positive identification with the EU is predominant in regions that have been the biggest beneficiaries of cohesion

7 The Horizon 2020 COHESIFY project investigated how EU identification varies across the differentiated regional contexts of the 28 EU member states. For more information see www.cohesify.eu.

policy, either in the past or at present. An important caveat is that, in this study, we do not carry out statistical analysis on the linkages between the EU identification types and EU cohesion policy variables, such as size of allocation, thematic focus of spending, or absorption rate. This is an obvious limitation of this research, pointing to the need for further research.

The chapter is divided into four parts. The next part outlines the conceptual framework for the research, drawing on the different dimensions of EU identification as conceptualised in the literature. Then, the analytical methods used are briefly outlined. The subsequent part of the chapter presents the results discusses their implications. The chapter closes with concluding observations together with an outline of additional research questions that the results open up.

2.2 EU Identification: What Determines it and Why Do We Expect Cohesion Policy to Matter?

A range of literature sources provides some clues about the factors that may shape identification with the EU among citizens. Some of these may be related to the costs and benefits associated with European integration, whereby the winners of this process are more likely to view the EU in a positive light than those who lose out from this process (Bellucci, Sanders, & Serricchio, 2012; Fligstein, 2008; 2009). Against this background, it is not surprising that studies covering the period of late 1990s, when cohesion spending was increasing, indicated a positive impact of Structural Funds on the positive perceptions of the EU (Brinegar, Jolly, & Kitschelt, 2004; Osterloh, 2011), particularly among the direct recipients of funding. Previous research has shown that an increase of per capita transfer from the EU to a region by 100 Euro boosts the likelihood of one being positive about the EU by approximately 5 to 15% (Osterloh, 2011).

Beyond the size of the allocation of EU funds for a particular territory, another factor behind EU identification among citizens are transnational experiences and social interactions across borders. Previous research indicates that such interactions across borders can positively affect identification with the EU (Bellucci et al., 2012; Fligstein, 2009). One can thus assume that EU cohesion policy funding for territorial cooperation could be a factor facilitating such transnational experiences and, hence, boosting positive views on the EU. This can be particularly relevant in the case of cross-border cooperation programmes offering arguably most tangible opportunities to interact with the neighbouring region—as opposed to less tangible transnational or macro-regional programmes of territorial cooperation covering larger territories.

Other factors behind EU identification among citizens relate less directly to cohesion policy. There are studies that indicate that the strength of pre-existing territorial identities at national or sub-national level also affects, either positively or negatively, European identification (Bruter, 2009; Chacha, 2013; Duchesne &

Frognier, 1995; Hooghe & Marks, 2003; Marks, 1999; Medrano & Gutiérrez, 2001). These identities are deeply rooted in long-standing nation-building, sociological, and geopolitical processes that go far beyond the time horizon of cohesion policy (which was established in 1988). Another factor, equally deeply rooted in socio-institutional legacies of specific territories, is the degree of trust in national political institutions that the citizens have. When trust in national institutions is low, then the trust in the EU tends to be higher, as it provides alternative—arguably, less corrupt—locus of identification to citizens disgruntled by their governments (Bellucci et al., 2012). Finally, literature on 'cognitive mobilisation' suggests that socio-demographic characteristics may also play a role in determining positive identification with the EU, with key factors favouring it being higher income, occupational status, and educational attainment (Citrin & Sides, 2004; Duchesne & Frognier, 1995; Fligstein, 2009; Medrano & Gutiérrez, 2001). These findings seem to be related to those from studies on the Structural Funds impacts indicating that awareness of EU funding is related to socio-economic background and translated into support for the EU (Osterloh, 2011); and that education level plays a mediating role in the effect of EU transfers on the perceptions of the European integration project (Chalmers & Dellmuth, 2015). Thus, citizens in poorer regions, where education levels are relatively low, may be less aware of EU funding invested in their surroundings and hence less likely to have positive views on the EU.

2.3 Data and Methodology

A typology of EU identification is constructed in this chapter with the focus on Southern and Eastern regions of the EU, the main recipients of cohesion policy funding. The typology is used to examine whether the amount of regional development funding is related to how positive citizens feel about the EU. The research draws on data from Standard Eurobarometer surveys from 2015 to describe and compare the differences in attitudes to EU identification across Europe. Two sorts of questions from the Eurobarometer surveys were used to construct a typology of EU identification. The first of these questions relates to public opinions about EU's image[8]; the second relates to attachment to it[9]. These two variables correspond well to the two dimensions of EU identification: EU image variable, or probing the citizens' general impression of the

8 The question about EU image is typically phrased (in the local language) as follows: "In general, does the EU conjure up for you a very positive, fairly positive, neutral, fairly negative or very negative image?"

9 The question about EU attachment is typically phrased (in the local language) as follows: "Please tell me how attached you feel to the European Union (very attached, fairly attached, not very attached, not at all attached)."

EU, reflects well the evaluative dimension (How well does the EU work for me? How much do I benefit from it?), while the attachment variable, or probing the intensity of positive feelings towards the EU, allows for measuring the affective dimension (How do I feel towards the EU?). In this study, the cognitive dimension of EU identification is not considered, focusing only on the evaluative and affective dimensions.

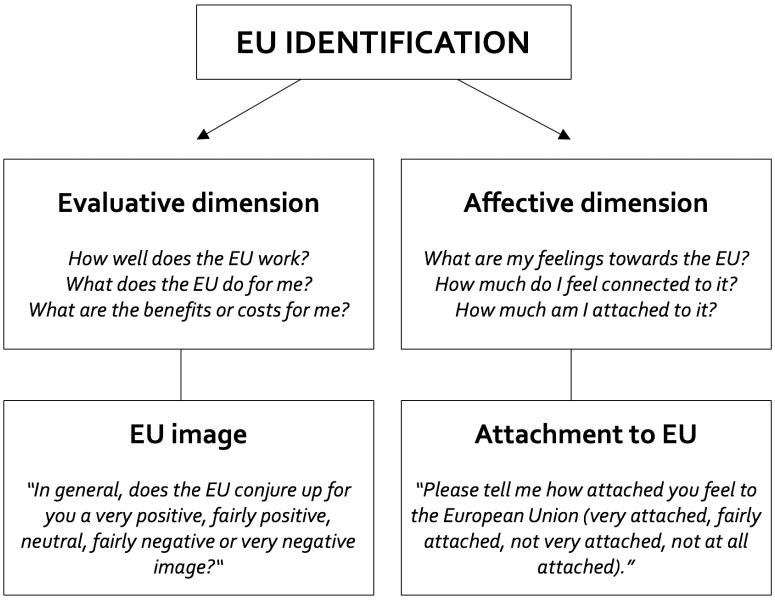

Figure 1: Dimensions of EU identification and variables used to measure them.
Source: Own elaboration, variables and the related survey questions adapted from Eurobarometer.

Although questions concerning the EU's image appear regularly in Eurobarometer surveys, fewer waves contain questions on attachment to the European Union. For the purpose of the typology developed in this study, regionally coded waves of the Eurobarometer survey from 2015 were used (see table 1).

Surveys used	Variables
Eurobarometer 84.4 November - December 2015	EU image
Eurobarometer 84.3 November 2015	EU image and attachment to the EU
Eurobarometer 84.1 September 2015	EU image and attachment to the EU

Source: Authors

In order to construct a composite typology of EU identification, hierarchical cluster analysis was used to identify groupings of EU image and attachment across 258 NUTS 2 regions for which data was available. Cluster analysis is a method that allows for exploring complex data sets in search for homogenous grouping of objects based on multivariate similarity (see for example Gore Jr., 2000). The analysis is widely used across various disciplines to build classification systems or typologies. The hierarchical method for cluster analysis allows for identifying a hierarchy of nested clusters that can be represented graphically in a tree structure. In this particular case, a decision was made to identify five clusters, striking a balance between the accuracy of clustering and legibility of the typology.

As with all research methods, there are certain limitations which need to be acknowledged. First, while offering a useful categorisation along the relevant variables, the typology is based on inevitably arbitrary decisions that had to be made to define the boundaries between the types. This invites caution in interpreting the differences between the types. Second, there are limitations stemming from the dataset. In Eurobarometer surveys, the number of respondents in particular regions may be relatively small, which limits the validity of the data on the regional scale. To mitigate this limitation, several waves of Eurobarometer surveys were combined from the same year (2015) to increase the sample size and validity. Finally, our analysis focuses on a single year, compiling several surveys from 2015, and therefore cannot account for change of EU identification in regions over time. It should also be noted at this point that some caution is required when interpreting the typology since it is not based on extensive statistical analysis over time and does not explore the role of other factors shaping EU identification mentioned above, such as education levels or socio-economic situation of citizens.

2.4 Results

Five clusters of regions were identified using hierarchical cluster analysis:

1.1. "Positive on both counts" (*positive-attached*): Regions in which opinions among citizens are higher than average about the image of the EU and attachment to it.

2.1. "Neutral EU image but still attached" (*neutral-attached*): Regions in which the image of the EU is neutral among citizens but attachment to the EU is above average.

2.2. "Neutral on both counts" (*neutral-neutral*): Regions in which the image of the EU is moderate (or neutral) among citizens, as is attachment to the EU.

3.1. "Negative image but still attached" (*negative-attached*): Regions in which the image of the EU is predominantly negative among citizens but they nevertheless feel some attachment to the EU.

3.2. "Negative image and half attached" (negative-neutral): Regions in which the image of the EU is predominantly negative among citizens and feelings of attachment are neutral.

The main characteristics of these clusters are summarised in Table 2. Figure 3 shows the distribution of the types across the EU, while Figure 4 indicates the Southern and Eastern European regions that are the focus of this chapter.

Table 2: Characteristics of the five types of regions according to citizens' opinions on the image of the EU and attachment to it.

	Cluster 1.1	Cluster 2.1	Cluster 2.2	Cluster 3.1	Cluster 3.2
	"Positive on both counts" (positive-attached	"Neutral EU image but still attached" (neutral-attached)	"Neutral on both counts" (neutral-neutral)	"Negative image but still attached" (negative-attached)	"Negative image and half attached" (negative-neutral)
Number of regions	35	86	57	56	24
Proportion of regions	13.6%	33.3%	22%	22%	9%
Image of the EU among citizens					
% positive	47%	35%	35%	23%	23%
% neutral	39%	41%	41%	37%	37%
% negative	9%	21%	21%	36%	36%
Citizens' attachment to EU					
% attached	63%	55%	42%	40%	30%
% neutral	24%	31%	37%	34%	41%
% unattached	9%	10%	17%	22%	26%

Source: Own elaboration on the basis of Eurobarometer data.

2.5 Discussion

The first striking observation from the typology is that there are no regions with a predominantly negative image of the EU and no attachment to the EU. Thus, citizens tend to be attached to or at least neutral towards the EU even if they disapprove of what it does. In other words, the affective aspects of EU identification are more deeply rooted and stronger than the utilitarian aspects. As illustrated in figures 5 and 6, among Southern and Eastern European regions the types with more positive

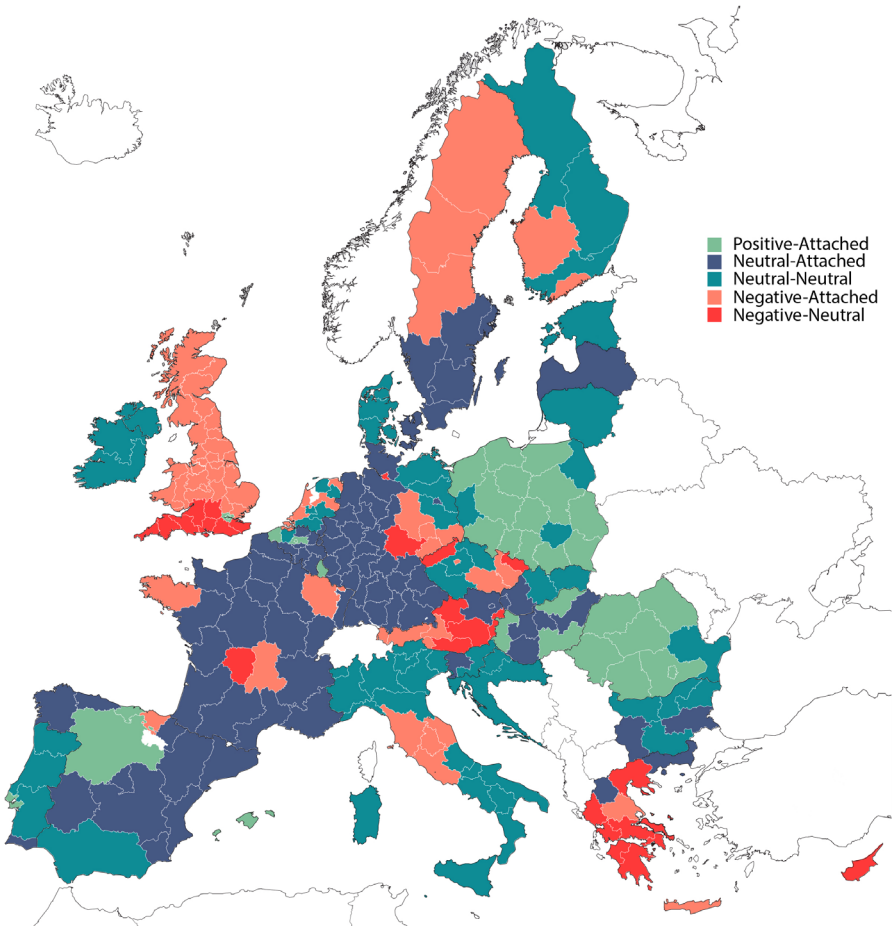

Figure 3: EU identification typology map - EU28.
Source: Own elaboration on the basis of Eurobarometer data.

EU identification, particularly in terms of EU image, tend to be predominant, as compared to the all EU28 regions. It is also striking, that the *positive-positive* type corresponds to as much as 26% of Southern and Eastern regions, as compared to 14% for the whole EU. Conversely, there are fewer regions in the types with predominantly negative EU image (*negative-neutral* and *negative-attached*) in Southern and Eastern Europe as compared to EU28.

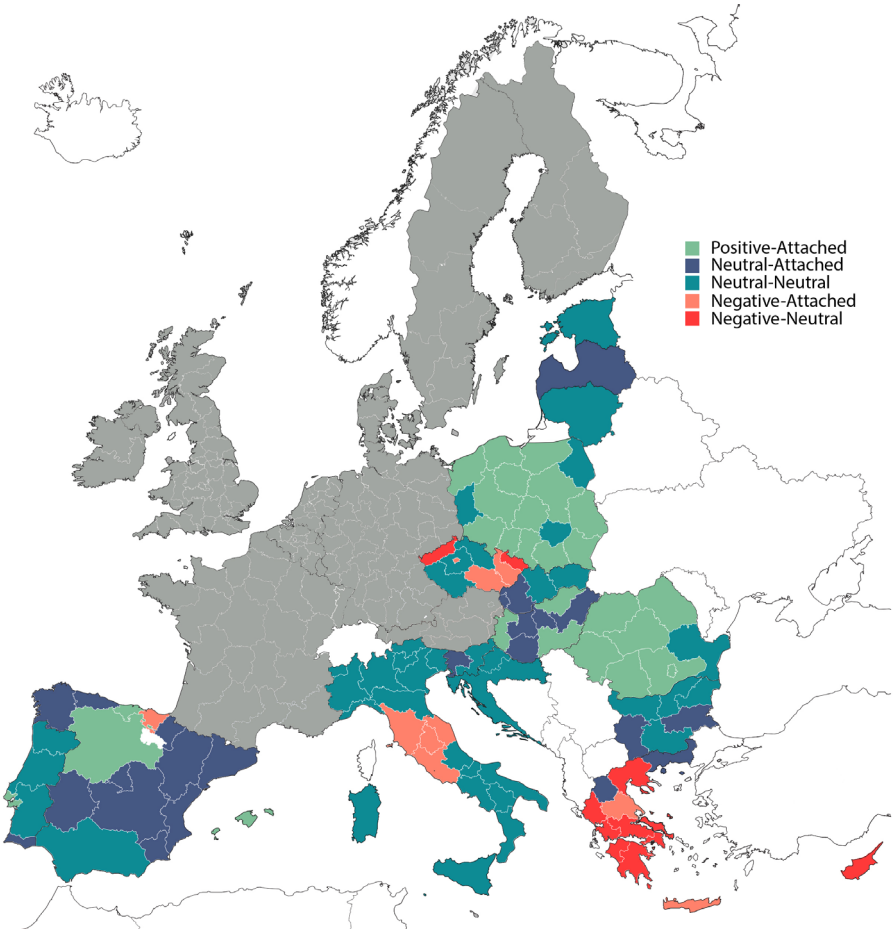

Figure 4: EU identification typology – Southern and Eastern European regions (focus of the analysis).
Source: Own elaboration on the basis of Eurobarometer data.

Looking at the Southern member states (i.e. the countries that previously benefited from substantial allocations of EU Cohesion funds but have seen the amount of funding decline), there appears to be divergence between the regions of Italy, Spain, and Portugal, on the one hand, and the Greek regions and Cyprus, on the other hand. In the first group of countries, most regions belong to the *neutral-attached*, *neutral-neutral*, or *positive-attached* types. The *positive-attached* type can be found in the Lisbon region in Portugal, and Castilla y Leon, Cantabria and the Balearic Islands in Spain. None of these regions are or were recently within a category of lagging regions receiving the highest allocations of EU Cohesion funding (i.e. none of them are within the 'Less developed regions' objective in 2014-2020 period, or the 'Convergence' objective in 2007-2013). The Italian and Spanish regions that have, or continue

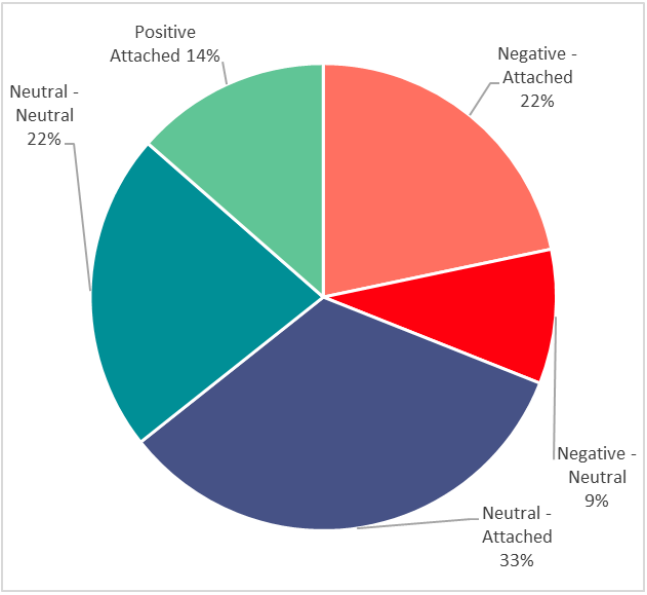

Figure 5: Share of types of regional EU identification in the EU as a whole.
Source: Own elaboration on the basis of Eurobarometer data.

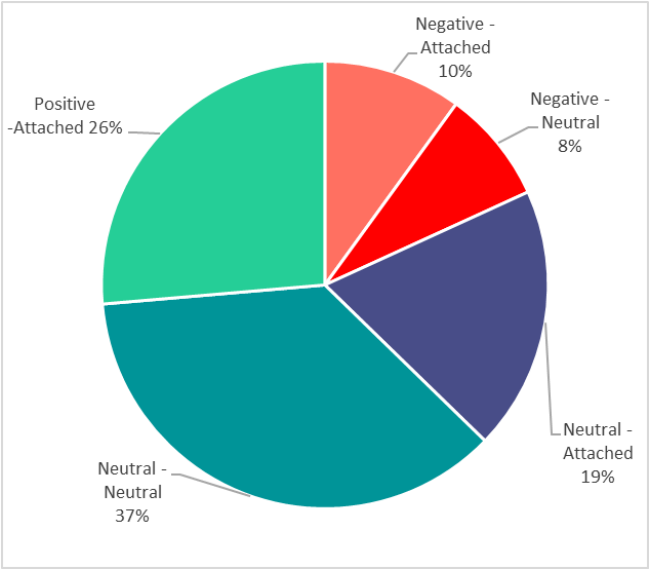

Figure 6: Share of types of regional EU identification in the Southern and Eastern European regions.
Source: own elaboration on the basis of Eurobarometer data.

to benefit from substantial funding under 'Less developed regions/Convergence' objective (e.g. Calabria and Sicily or Extremadura and Andalusia) remain either in the *neutral-attached* or *neutral-neutral* category. This means that EU identification in its evaluative dimension remains neutral, but varies from neutral to positive in the affective dimension. Therefore, it seems that EU cohesion policy has not generated much 'love' for the EU in the regions in which it has supported investment over many years and that other factors must be at play in determining citizens' views on the EU.

In the case of Greece, a country that has been a long-standing beneficiary of EU cohesion policy, with most of its regions falling under the 'Less developed regions/ Convergence' objective, it is striking that EU identification is predominantly negative (only Western Macedonia remains *neutral-attached*, Crete and Thessaly *negative-attached*, and the majority of regions *negative-neutral*,). The same applies to Cyprus, which is in the *negative-neutral* cluster. One can speculate that in the case of these two countries, negative EU identification may have little to do with cohesion policy. In fact, it most likely deteriorated in recent years due to the particularly acute effects of the economic crisis starting in 2008, the Eurozone tensions, and the EU-imposed austerity measures, which substantially impoverished the society and led to political and social unrest. Positive type regions cluster in some of the Eastern member states that currently benefit from an enormous inflow of EU funding, such as Poland and Romania. These two countries stand out amongst the Eastern EU Member States, by having the most regions in the *positive-attached* category. This seems to confirm that there is a relationship between the importance of EU cohesion funding for a given region, and a more positive outlook on the EU among its citizens. That being said, many of the regions that have benefited from substantial support from the EU cohesion policy, qualified under Convergence/Less developed or Phasing-out /Transition objectives, are not necessarily characterised by more positive EU identification. In countries like the Czech Republic, there is a greater diversity of types, with Northwest and Moravia-Silesia characterised by the most negative EU identification (*negative-neutral*), and the rest of the regions split between *neutral-neutral* type, where predominantly the image of the EU is neither good nor bad and people tend to be lukewarm in terms of their attachment to the EU, and *negative-attached* type, where negative views on the EU prevail, but citizens nonetheless tend to be attached to the European integration project.

Figures 7 and 8 illustrate the relationships between the size of cohesion funds allocation for a given region and its type with respect to EU identification. This relationship is not straightforward. However, some interesting observations can be made. Regions that are classified as *positive-attached* in the EU identification typology have a relatively high average size of allocation per capita in the 2007-2013 period—much higher than the *neutral-attached* and *neutral-neutral*, let alone *negative-neutral*. What is puzzling is that the average allocation is even higher in regions in the *negative-neutral* type. Considering the average size of allocation as a ratio of regional GDP, the relationship between positive EU identification and the amount of funding

flowing into a given region is clearer. Regions in the *positive-attached* and *neutral-attached* categories have the highest allocations in relation to their GDP, respectively 14.63% and 13.99%, which contrasts with 11.96% for the *negative-neutral* type and more significantly with 3.5% in the *negative-attached* type.

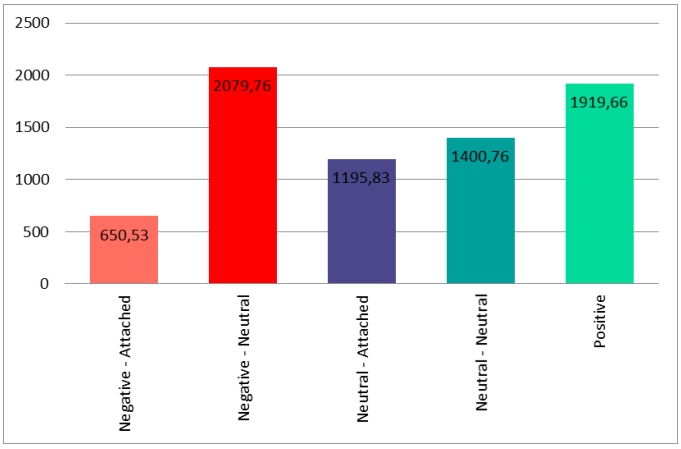

Figure 7: Allocation of EU Cohesion funding per capita (Euro) in Southern and Eastern European regions.

Source: Own elaboration on the basis of data from DG Region and Eurobarometer.

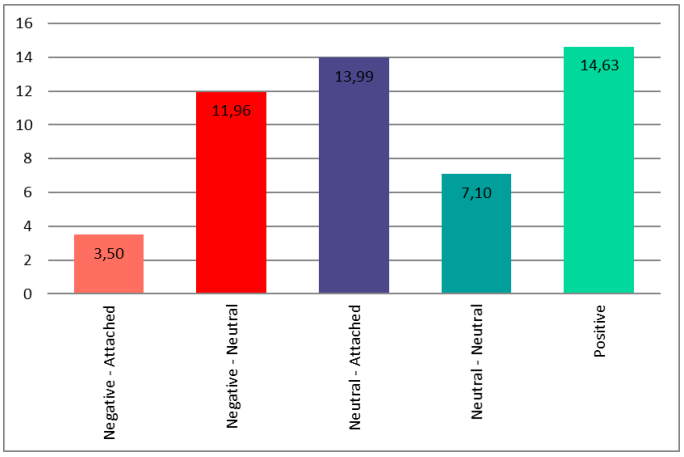

Figure 8: Allocation of EU Cohesion funding as a share (%) of regional GDP in Southern and Eastern European regions.

Source: Own elaboration on the basis of data from DG Region and Eurobarometer.

The most striking observation, perhaps, concerns the relationship between eligibility for EU cohesion policy, distinguishing between less developed regions, transition regions, and more developed regions, which is based mainly on GDP per capita in relation to EU average (see figures 9,10, 11). In fact, it is clear, as indicated in figures 9 and 10, that the *positive-attached* type is much more prominent among less developed regions (36%), compared to more developed regions (22%). The regions with a predominantly negative profile of EU identification (*negative-neutral* and *negative-attached*) add up to 7% of less developed regions, as compared to 28% of more developed regions. All in all, this seems to indicate that should there be a relationship between the intensity of EU cohesion policy's support for regions and EU identification, it is in the less developed regions, where most of EU funding is allocated. This relationship, however, would need to be explored in further research to shed more light on causality.

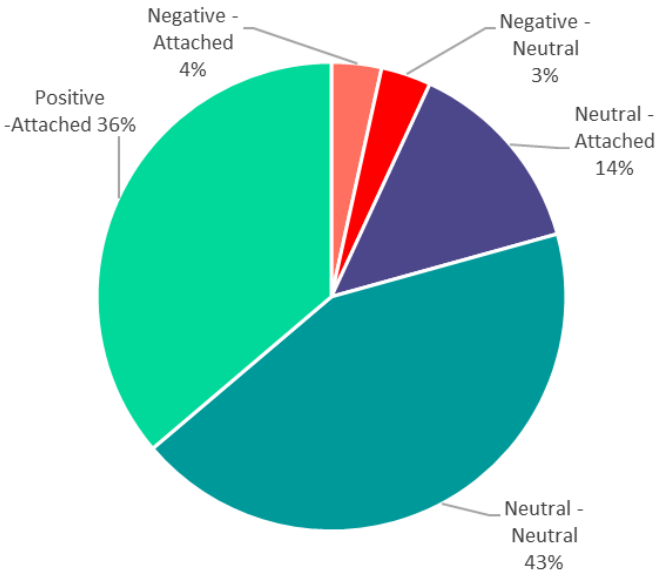

Figure 9: Distribution of EU identification types across the 'Less Developed' Southern and Eastern European regions.

Source: Own elaboration on the basis of data from DG Region and Eurobarometer.

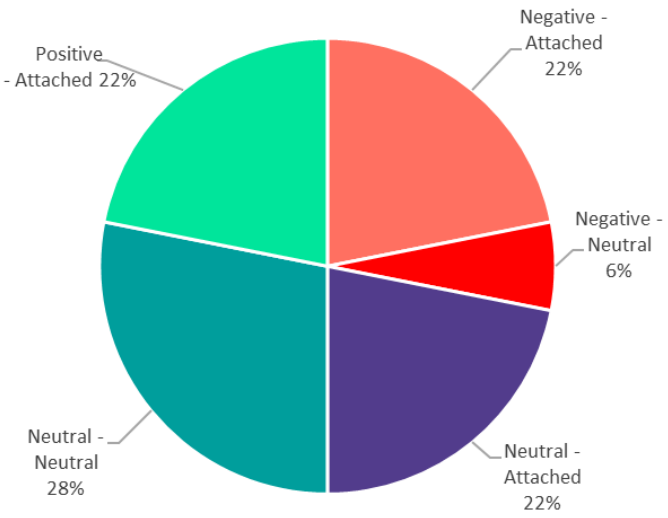

Figure 10: Distribution of EU identification types across the 'More Developed' Southern and Eastern European regions.

Source: Own elaboration on the basis of data from DG Region and Eurobarometer.

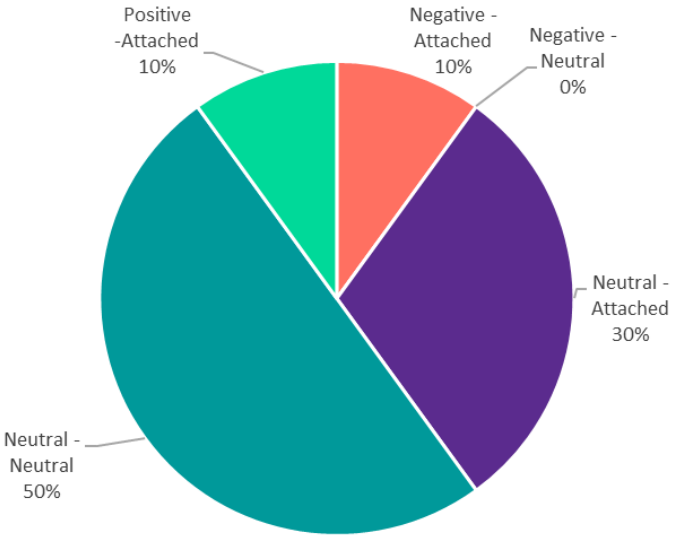

Figure 11: Distribution of EU identification types across 'Transition' Southern and Eastern European regions.

Source: Own elaboration on the basis of data from DG Region and Eurobarometer.

Finally, the typology map (Figure 4) shows that there is a large variation in EU identification across border regions. In some border regions, citizens do not appear particularly positive about, or attached to, the EU, despite the fact that one could expect that the experience of interacting with countries across the border would strengthen EU identification. Many of the border regions—such as the Greek Eastern Macedonia and Thrace (bordering Bulgaria and Turkey) or the aforementioned Czech regions (Northwest, bordering Germany; and Moravia-Silesia bordering Poland and Slovakia)—fall under the *negative-neutral* category. This seems to put into question the claim that interactions across borders or transnational experience favour more positive attitudes towards the EU, as indicated in the literature. This may cast doubts on the claims on the positive impacts of territorial cooperation as part of EU cohesion policy on EU identification.

2.6 Conclusion

The typology presented in this study is an attempt to shed more light on the variation of EU identification at the regional level. Providing more clarity on the patterns of the evaluative and affective dimensions of EU identification across the extremely differentiated regions in Southern and Eastern European countries is a crucial first step towards understanding of the role of cohesion policy in shaping those patterns, which will require more in-depth statistical analysis probing of the determinants of the regional identification types.

The evidence in this study suggests that strong EU cohesion policy support in Eastern European regions seems to be related to positive EU identification, such as in Polish or Romanian regions. However, this is not always the case in the Southern Member States. In the south, a strong differentiation of regional types can be observed. In economically-lagging regions, which have benefitted from strong cohesion policy support, citizens are often less positive about the EU. The same applies to the Czech Republic, whose regions are particularly polarized in terms of EU identification, even though most of them are major beneficiaries of cohesion policy. These findings indicate that EU funding does not always tie into citizens' EU identification, which in turn suggests that other factors may be more important (e.g. socio-economic factors). This is particularly striking in the case of Greece, engulfed in economic crisis and coerced into an extremely controversial austerity programme by the EU, eroding positive identification despite substantial cohesion funding allocations to Greek regions.

The ostensibly weak relationship between EU funding and EU identification requires further study. At the same time, it points to several challenges for cohesion policy. In some regions, cohesion policy does not appear to have much impact on EU identification, or perhaps this impact is offset by other factors. This may be due to the

policy making little difference on the lives of the citizens of those regions and/or the result of EU investment not being communicated well enough.

The observations in this study open up new avenues for further investigation into the determinants of the spatial patterns of EU identification across the European territory. What is the role of EU cohesion policy in this? Is it relevant or perhaps other policy or territorial, socio-economic or institutional factors are at play (e.g. size of allocation of EU funds, focus of spending on infrastructure or human resources, or the level of education of citizens)? Moreover, even in regions with a predominantly negative image of the EU, most citizens tend to identify with the EU or be neutral towards it. This dichotomy needs further investigation in future case study research, with particular attention to the cohesion policy support as a factor in shaping those perceptions. Finally, the limitation of this work is its focus on data spanning one year, thus future research could shed more light on the regional dimension of EU identification by comparing results from Eurobarometer surveys over the span of several years, providing more details about changing attitudes towards the EU over time.

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3 Quality of Life Convergence in the EU: Do Eastern and Southern European States Lag Behind?

Panagiotis Liargovas and Stavroula Kratimenou[10]

Abstract: Currently, there is renewed interest for convergence process in the EU. According to the EU Five Presidents' Report, convergence towards more resilient economic and social structures in Member States is an essential element for the successful performance of EMU in the long run. The purpose of this paper is twofold: First, to investigate convergence between the countries of the European Union (EU-28), as well as the evolution of inequalities in the period 1990 to 2015, with more emphasis in Eastern and Southern Europe. Second, to use Quality of Life indicators in the empirical analysis. It measures convergence or divergence of the 28 EU member-countries using two complementary approaches, the first based on coefficient of variation and the second based on the values of a composite index of Quality of Life for each EU Member-State. This exercise will be useful in drawing lessons from the successes and failures of cohesion policy in the Eastern, South Eastern, and Southern periphery. It is also a useful tool for EU policy-makers.

Keywords: Disparities, Quality of Life Indices, Convergence

3.1 Introduction

The empirical assessment of convergence is controversial. Most of the controversy has centred on the level of convergence—i.e. between regions or between countries. In both cases, the more rigorous analyses of convergence have tended to focus on economic phenomena, neglecting social and quality of life phenomena. However, comparisons of quality of life between nations have received special attention, because of their all-inclusive nature, which focuses on region-specific amenities. The contention is that individual well being, depends upon quality of life factors such as infrastructure, environmental quality, healthcare, crime rates and public services, as well as the more traditional pecuniary factors such as money income and the prices of goods, which determine cost of living.

Only a few studies have analysed the convergence of countries in terms of a set of quality-of-life variables, such as Giannias, Liargovas, & Manolas, (1999) for Europe; Hobijn & Franses, (2001) and Mazumdar (2003) in a wider international

10 University of Peloponnese, Jean Monnet Center of Excellence; End Karaiskaki Street, Tripoli 22100, Greece. Correspondence: liargova@uop.gr

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framework; E O'Leary (2001) for Ireland; Marchante, Ortega and Sánchez (2006) for Spain; Liargovas and Fotopoulos (2008) for Greece; Royuela and García (2015) for Colombia, and Royuela and Artís (2006) for Barcelona. Finally, the local scope is much less analysed in the literature: O'Donoghue, (2000) analyses the convergence of employment structures in the British urban system; Royuela and Artís (2006) for Barcelona, and Pack (2004) studies the determinants of regional growth and its determinants jointly with the existence of convergence across US Metropolitan areas.

The purpose of this paper is twofold: First, to investigate convergence between the countries of the European Union (EU-28), as well as the evolution of inequalities in the period between 1990 to 2015, with more emphasis on Eastern and Southern Europe. Second, to use Quality of Life indicators in our empirical analysis. We measure real convergence or divergence of the 28 EU member countries using two complementary approaches, the first based on coefficient of variation and the second based on the values of a composite index of Quality of Life for each EU member-state. Our proposed methodology has three main advantages: Firstly, it focuses on real convergence, which is convergence beyond per capita income that takes into account various aspects of the quality of life. Secondly, it uses a simple and robust measure of convergence, the coefficient of variation. It is beyond the scope of this paper to use sophisticated methodologies of convergence (e.g. Bunyaratavej & Hahn, 2005). Rather, we try to apply a simple method of convergence on Quality of Life indices. Finally, we construct a composite Quality of Life index to observe disparities between EU countries and their evolution over time. Based on these results, country rankings can be determined. This exercise allows us to make an assessment of the effectiveness of cohesion policy in the Eastern, South Eastern and Southern periphery. Policy makers have shown a great concern for the variations in the economic and social performance of the different EU Member States in recent years.

The preamble of the Treaty of Rome calls for a reduction of the "differences existing between the various regions and the backwardness of the less favored regions", while Article 2 of the Treaty refers to the goal of "harmonious development, of economic activities, a continuous and balanced expansion".[11] With respect to regional equality and convergence, the EU cohesion policy is a key policy area. This policy is the second biggest policy field in the EU and also represents a significant portion of the budget. Cohesion and structural funds comprise almost a third of the total EU budget. In the current programme period of 2014–2020, budget allocation was 351.8 billion euros.

The second section of this study discusses the measures of convergence and investigates the evolution of relative inequalities between countries within the identified convergence or divergence process. The third section presents the empirical results and discusses some possible explanations behind observed patterns. A final section offers some conclusions.

11 See https://ec.europa.eu/romania/sites/romania/files/tratatul_de_la_roma.pdf

3.2 The Concept of Quality of Life: Selecting Indicators

Giving a precise definition of the concept of Quality of Life is far from easy. The notion is highly intuitive for the population at large. Yet, from a scientific standpoint, it proves extremely difficult to detail in essence. The problem is further complicated when considering that Quality of Life is closely linked to other related concepts, such as standard of living, or wellbeing. By way of an initial approach, it can be said that Quality of Life is the substantive element, whilst standard of living is the situation in which Quality of Life finds itself at a given moment; wellbeing is the consequence of the two previously mentioned concepts. Thus, Quality of Life may be deemed as stock, while standard of living and wellbeing are fluxes that require a complex measuring process. Although no exact definition is required for the purpose of the present study, it does seem appropriate to choose a useful definition that can bring us as close as possible to the concept. In this vein, and as a result of the research conducted by authors of this present work, we adopt the following definition:

> Quality of life is the result of complex interactions of a set of objective and subjective factors: objective factors refer to external conditions of an economic, sociopolitical, environmental, and cultural nature, while subjective factors refer to individuals' perception of their own life and the satisfaction reached in its various dimensions.
> (Somarriba, 2008)

The above definition refers to both objective and subjective factors as integral parts of the concept under scrutiny. Choosing such a definition with the goal of measuring the concept of Quality of Life thus entails determining what these factors are, and selecting and constructing a system of indicators which serve to gauge Quality of Life in the various EU countries from a time-related perspective.

Our concept of Quality of Life quality of life is similar to the one found in European Surveys, carried out every four years. These surveys examine both the objective circumstances of European citizens' lives and how they feel about those circumstances and their lives in general. They look at a range of issues, such as employment, income, education (Pinquart & Sörensen, 2000), housing, family, health and work-life balance (Von Dem Knesebeck et al., 2007). They also look at subjective topics, such as people's levels of happiness, how satisfied they are with their lives, and how they perceive the quality of their societies. Our own concept of Quality of Life quality distinguishes between five main levels: 1) Population Density; 2) Economy and Development; 3) Services; 4) Natural and Urban Environment, and 5) Infrastructure, which are delineated in the following subsections. Data were taken from World Bank.[12]

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12 See http://documents.worldbank.org/curated/en/462341468766204683/World-development-indicators-2000

3.2.1 Population Density

Population density is defined as the number of people per unit area (usually per square kilometre) and occasionally refers to the geographical boundaries of a city, a country, or the entire globe. The importance of this indicator is significant because knowledge of the population density in a region and the monitoring of its evolution contribute significantly to various sectors. As the population density increases, so do the environmental pressures and the quality of life of the overall population of the study area. Among other things, subsequent to the increase of population density is the increase in requirements for logistics infrastructure (schools, hospitals, residences... etc.), the need for infrastructure (electricity, water and telecommunications networks), increased traffic load and intensity, lack of parking space, greater and more intensive need for cleanliness and care to reduce pollutants of all kinds, and the need for new jobs (increasing unemployment rates). The indicator is an indirect measurement of the environmental pressure and includes the exploitation of natural resources as well as the pollution of air and water.

3.2.2 Economy & Development

Economic growth is central and essential for a country's economic development. As the national income grows, people benefit. A country's economic development undoubtedly leads to the improvement of its quality of life and people are more satisfied in their everyday-lives. Since there is no formula for stimulating economic growth, data can help policymakers further understand their country's economic situation to guide any work towards improvement. In terms of economic growth, we include indices that reflect economic growth, equity, consumption, employment, savings, government spending, imports/exports. In this study, we focus on Gross Domestic Product (GDP) per capita, long-term unemployment, final consumption expenditure, and electric power consumption (kWh per capita).

3.2.3 GDP Per Capita

Socio-economic indicators are undoubtedly the focus of interest in any study on quality of life. It helps identify the possibilities that individuals have in order to improve their standard of living. In general, the main socio-economic indicators include income, housing, employment and consumption. Of these, income is an important factor in the quality of life, because it determines the personal financial situation. Income per capita is the average income for each resident, regardless of his/her/their participation in the production process. The level of income per capita is the most important criterion for the standard of people's living. The main index that reflects

the income situation of residents of an area, and subsequently used in this study, is gross domestic product per capita (GDP). GDP per capita is the sum of the value of the final products, produced by society in a given time. It includes all the incomes of the spatial unit of measurement, even of foreigners, but excludes the salaries and profits earned by citizens from sources outside the specified time unit. The advantage of GDP is that includes the entire economic activity for the area being studied. The limitations of the indicator, on the contrary, are its complexity and that it is based on statistical data, which must be reliable. Even so, this is often underestimated by developing countries, due to self-consumption, domestic work and informal economy trends. It also gives a rough account of the level of development of a country in matters relating to the distribution of wealth, but also of individual characteristics such as education, health... etc.

3.2.4 Long-Term Unemployment

The existence of unemployment corresponds with reduced initial resources and, consequently, to the deterioration of the quality of life. Accurate plotting of the importance of employment long-term unemployment rates are used. Long-term unemployment refers to the number of people with continuous unemployment for a period of one year or more, expressed as a percentage of the total unemployed. The long-term unemployment rate is an index showing the economic level and the quality of life within a country. Long-term unemployment is widely considered to be the basic cause of poverty. Moreover, in times of prolonged recession, the social cost of unemployment is further magnified by increasing crime and violence, the crisis of institutions, and the general decline of social cohesion. The deprivation of the right to work undermines confidence in the state and encourages indifference to political and social events. Unemployment has always been the most important problem in modern economies of capitalist systems. Even if an economy rebounds, because of GDP, it does not meet its citizens' demands, where there is a high proportion of unemployed, especially in the youth population. This is because unemployment has serious repercussions and effects on those who are unemployed and have no source of income. In addition, unemployment means a loss of productive labour, the most important factor in a modern economy, which means a further reduction in demand, and therefore the variety of products produced and offered in an economy.

3.2.5 Household Consumption Expenditure per Capita & Electric Power Consumption

For the determination of consumer expenditure, we use final household consumption expenditure (per capita) and the electric power consumption (kWh per capita) as indicators. Final consumption expenditure is the market value of all goods and

services, including durable products (such as cars, washing machines, and home computers), purchased by households.

3.2.6 Services

A person's quality of life depends on available services that exist in each country between EU-28, which meet basic needs. It should be noted however, that the range of services among the countries of the European Union is not homogeneous. There are significant differences between them. It is appropriate to use a large number of indicators to describe the services of an area. The most important areas in this respect are the sector of health, education, transport, communications, security, and culture.

3.2.7 Health

Health is an essential element of the quality of life of a country's citizens. Poor health can affect the overall progress of society, as well as the subjective wellbeing of individuals. Improving health is vital for the Millennium Development Goals[13] and the public sector is a major provider of healthcare in developing countries. Sanitary protection and medical care are vital inputs to ensure the health of residents of a country. With the main goal of reducing inequality, many countries have focused on primary healthcare, including immunization, sanitation, access to safe drinking water, and safe motherhood initiatives. In the present work, the indices that are used to carry out the conclusions in the health sector are:

The first index is (a) Life Expectancy. Life expectancy is the number of years a person is expected to live, starting from birth (life expectancy at birth). A widely used index of population health, life expectancy measures the quantity rather than quality of life. The significance of the index: Life expectancy at birth reflects the overall mortality rate of the population. It summarizes the evolution of mortality among all age groups - children and adolescents, adults and the elderly. In addition, the data on healthy life years—or life expectancy without disabilities—indicates the number of years that a person of a certain age is expected to live without disabilities. The Healthy Life Year Index is at the heart of the European Structural Indicators, as its importance is recognized in the Treaty of Lisbon. The index is used to monitor health as a factor of productivity/economy, introducing the concept of quality of life, measuring the

13 The eight Millennium Development Goals (MDGs) – which range from halving extreme poverty rates to halting the spread of HIV/AIDS and providing universal primary education, all by the target date of 2015 – form a blueprint agreed to by all the world's countries and all the world's leading development institutions. See https://www.un.org/millenniumgoals/.

employability of older workers, as well as monitoring the progress made in terms of quality and sustainability of healthcare and access to it. The second index is (b) the number of doctors per 1000 physicians (per 1,000 people). This includes general and qualified doctors, and a mortality rate under five (5) years (per 1,000 live births), which shows the probability that in 1,000 births, a new-born baby will die before the age of five.

3.2.8 Education

In all economies, education plays a vital role in the progress of citizens' lives. Education levels may determine the profession of each person. People with limited capabilities and skills are often excluded from a wide range of jobs, sometimes missing opportunities to achieve remarkable goals within society. Such citizens may also have fewer prospects for economic prosperity. In Europe, education indices that are important for quality of life are: the educational level of the population, the number of people enrolled in primary and secondary education, the number of early school dropouts, self-estimation, as well as lifelong learning. Education is one of the most powerful means to reduce poverty and inequality between countries. It sets the foundations for sustainable economic growth.

The indices used in this survey on the education sector are: (a) the percentage of primary school enrolment, irrespective of age, expressed as a percentage of the total population. This indicator may be over 100% due to the inclusion of primary over-aged or under-aged pupils in primary education, given their early or late entry into the primary education system. Second, (b) the percentage of secondary education school enrolment, which corresponds to the total enrolment in secondary education, irrespective of age, and expressed as the percentage of the total population from the official age of the secondary school education. This index may also exceed 100% due to the inclusion of over-aged or under-aged students in secondary education.

3.2.9 Natural & Urban Environment

Environmental protection has been very important on the European agenda over the last decades. The overwhelming majority of European citizens believe that environmental protection is imperative with significant impact on people's quality of life. Exposure to air, noise pollution, and water pollution can have a direct impact on the health of citizens and the economic wellbeing of communities. Environmental indicators are very important for assessing the quality of life not only in Europe, but also in the rest of the world. In most studies, environmental indices determine the amount of environmental damage done by factors such as pollution, CO_2 emissions...

etc. Environmental indices also include quantitative surveys on the quality of open land, water areas, and indicators associated with the climate.

In this paper the indices used are: First, (a) Carbon dioxide (CO_2) emissions (metric tonnes per capita). It is an index that measures carbon dioxide emissions from fossil fuel combustion and cement production. CO_2 is now known as *greenhouse gas*. CO_2 emission comes from human activity, ultimately creating a phenomenon known as climate change, i.e. the long-term alteration in earth's climate and weather patterns. Nowadays, a great deal of effort is being made to reduce global CO_2 emissions. Carbon footprint measurement is a common practice for many organizations worldwide and is usually accompanied by a specific climate change strategy. Second, (b) the index that reflects forest area (% of land area) refers to tree clusters, located in urban parks or gardens, with the exception of those trees belonging to agricultural production systems (for example, fruit plantations and agro-forestry systems).

3.2.10 Infrastructure

Infrastructure helps the success of production and agricultural activities. Investment in areas such as water, sanitation, energy, housing, and transport help reduce poverty. New electronic and communication technologies also promote growth, improve health services, extend learning opportunities, and support social and cultural developments. Information is an indispensable element for access to physical and intangible resources that belong to the infrastructure sector. The index used involve cellular mobile telephone subscriptions/devices per 100 people, as well as the number of Internet users per 100 people. Mobile-phone subscriptions refer to the number of subscriptions to public cellular network services that provide access to the Public Switched Telephone Network (PSTN) using cellular technology. The index includes the number of subscription contracts and the number of active prepaid accounts (i.e. lines used within three months). The index applies to all mobile subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private flip-flop mobile telephony, Teletext, radiotelephone, and telemetry services. This index is calculated as the number of mobile-phone subscriptions divided by the population and multiplied by 100.

Another index is the number of Internet users per 100 people. Over the last decade, the Internet has changed the way people work, retrieve information, and communicate. Today there is hardly an aspect of human life not mediated by the flow of available information on the hundreds of millions of websites that make up the internet, and of course its affordance to keep people in touch with one another through technologies such as e-mail (Henderson, 2001). The Internet has the ability to connect people to each other, simplify their lives, and make it easier in many ways. So at the dawn of the 21st century, it plays an important role in the perception of people's

quality of life. According to the World Bank,[14] Internet users are made up of people who have access to the Internet. Analysing the data from the World Bank shows that in 1990, the number of Internet users was insignificant. For example, although Sweden occupies first place in the quality of life Index, the percentage of online users was just 0.5841 in 1990 (see **Table 3**).

Table 1: Indices Quality Of Life.

Index	Source
Population density (people per sq. km of land area)	World Bank Group 2000
GDP per capita (current US$)	World Bank Group 2000
Electric power consumption (kWh per capita)	World Bank Group 2000
Long-term unemployment	World Bank Group 2000
Household final consumption expenditure per capita (constant 2005 US$)	World Bank Group 2000
Mortality rate, under-5 (per 1.000 live births)	World Bank Group 2000
Physicians (per 1.000 people)	World Bank Group 2000
Life expectancy at birth, total (years)	World Bank Group 2000
School enrolment, primary (% gross)	World Bank Group 2000
School enrolment, secondary (% gross)	World Bank Group 2000
CO2 emissions (metric tons per capita)	World Bank Group 2000
Forest area (% of land area)	World Bank Group 2000
Mobile cellular telephone subscriptions	World Bank Group 2000
Internet users (per 100 people)	World Bank Group 2000

Source: Own elaboration

14 See http://documents.worldbank.org/curated/en/462341468766204683/World-development-indicators-2000

3.3 Measuring Convergence

In this research the evolution of inequalities between EU-28 is explored using two different approaches. First, the use of fourteen different variables related to a country's general socio-economic situation, health, education, and services are utilized. The analysis is based on six different time periods 1990, 1995, 2000, 2005, 2010, and 2015. The variables included in the analysis refer to the 28 countries of the EU, namely: The Netherlands, Germany, Denmark, Ireland, Sweden, the United Kingdom, Luxembourg, Belgium, Austria, Finland, Slovenia, Italy, Spain, the Czech Republic, Greece, Cyprus, Estonia, Lithuania, Poland, Slovakia, Malta, Portugal, Hungary, Croatia, Latvia, Romania and Bulgaria. We calculate for each variable the time difference between the EU-28. The exact form of the modulation factor is as follows:

$$C.V = \frac{\sqrt{\frac{\sum_{i=1}^{i=n} (X_i - \bar{X})^2}{N}}}{\bar{X}}$$

Xi is the value of each variable; *X* is the average of the values of the variable; *n* is the number of countries (i.e. EU-28), and *N* is the number of observations. For each time period, and for each variable, a value of coefficient of variation is determined, which shows the evolution of the relative degree of inequality between the EU-28 countries. Reducing inequalities between countries occurs when the modulation factor is diminishing over time. When the coefficient of variation of all, or most of, the variables examined is decreasing, the result reveals that there is convergence between EU-28 countries. The coefficient of variation for the variables examined are shown in **Table 2**, while their evolution over time is shown in **Figure 2**.[15] **Figures 3** and **4** show the coefficient of variation for the same period, for the sub-group of Eurozone (EU-19) and PIIGSC (Portugal, Ireland, Italy, Greece, Spain, and Cyprus).

The problem with the above-mentioned classical approach to the quantification of inequalities between the EU-28 and EU-19 countries, is that it does not lead to conclusions if a significant part of the variables examined point in one direction (e.g. convergence) and the balance to another (e.g. deviation). For this reason, the empirical analysis at hand calculates and supports the conclusions on the average coefficient of differentiation of all variables (see **Table 2**).

15 This method has been used by Liargovas, G.Manolas, D.Giannias (1999).

Table 2: Volatility indices for EU-28 member states.

Volatility Indices EU-28	VOLATILITY					
	1990	1995	2000	2005	2010	2015
Population density (people per sq. km of land area)	1.3737	1.3399	1.3344	1.3715	1.3787	1.4122
CO2 emissions (metric tons per capita)	0.4889	0.4041	0.4077	0.4589	0.4502	0.4729
Long-term unemployment	0.3909	0.2776	0.3651	0.3169	0.3040	0.2786
Mortality rate, under-5 (per 1.000 live births)	0.4771	0.5754	0.5960	0.5611	0.4945	0.4761
Physicians (per 1.000 people)	0.2573	0.2209	0.2229	0.2137	0.2335	0.2539
Mobile cellular telephone subscriptions	1.9620	1.2492	0.4743	0.1627	0.1466	0.1251
Life expectancy at birth, total (years)	0.0362	0.0468	0.0394	0.0398	0.0371	0.0355
Internet users (per 100 people	2.1187	1.3998	0.6442	0.3746	0.2074	0.1665
Household final consumption expenditure per capita (constant 2005 US$	0.6072	0.6260	0.6025	0.5471	0.5205	0.4512
GDP per capita (current US$)	0.7837	0.7991	0.7388	0.6926	0.6600	0.6596
Electric power consumption (kWh per capita	0.5923	0.6318	0.6099	0.5472	0.5460	0.4886
School enrolment, primary (% gross)	0.0856	0.0676	0.0531	0.0449	0.0421	0.0535
School enrolment, secondary (% gross)	0.1461	0.1756	0.1696	0.0898	0.0885	0.1570
Forest area (% of land area)	0.5430	0.5349	0.5278	0.5181	0.5108	0.5010
Coefficient of Variation (CV)	**0.7045**	**0.5963**	**0.4847**	**0.4242**	**0.4014**	**0.3951**

Source: own calculations

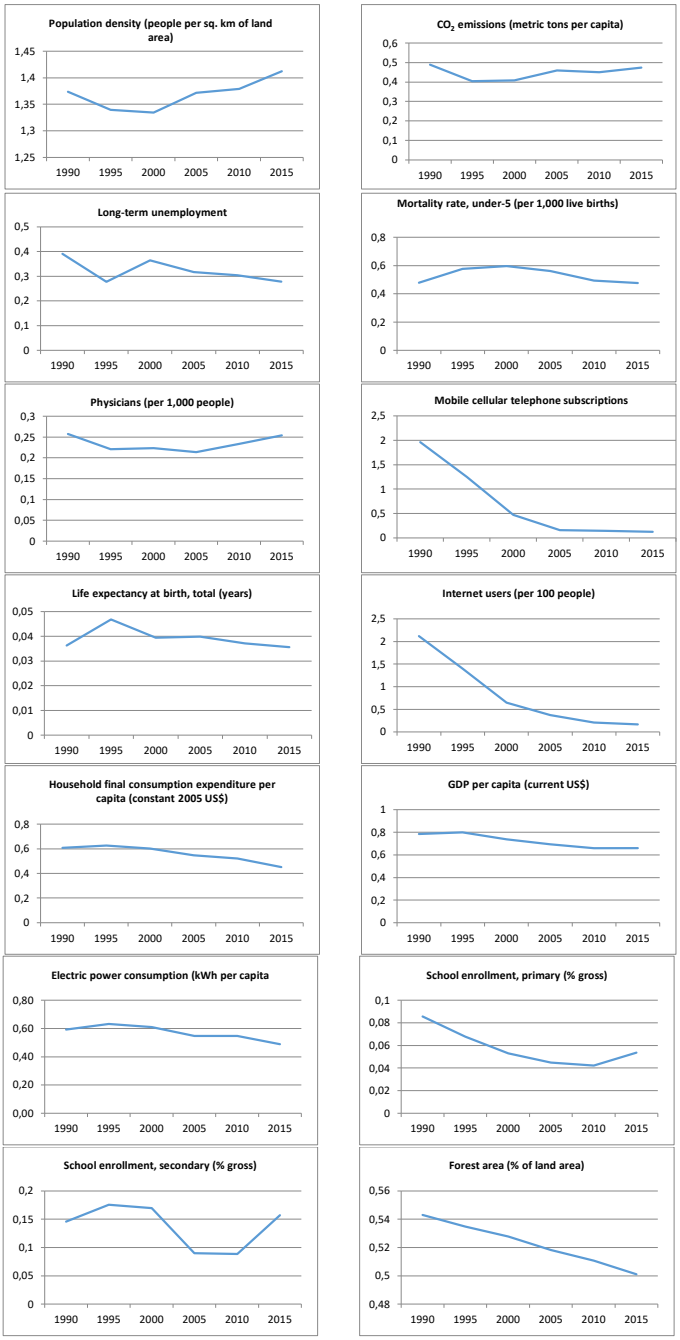

Figure 1: Volatility indices, 1990-2015 Analysing Convergence in EU-28 member states.
Source: own calculations.

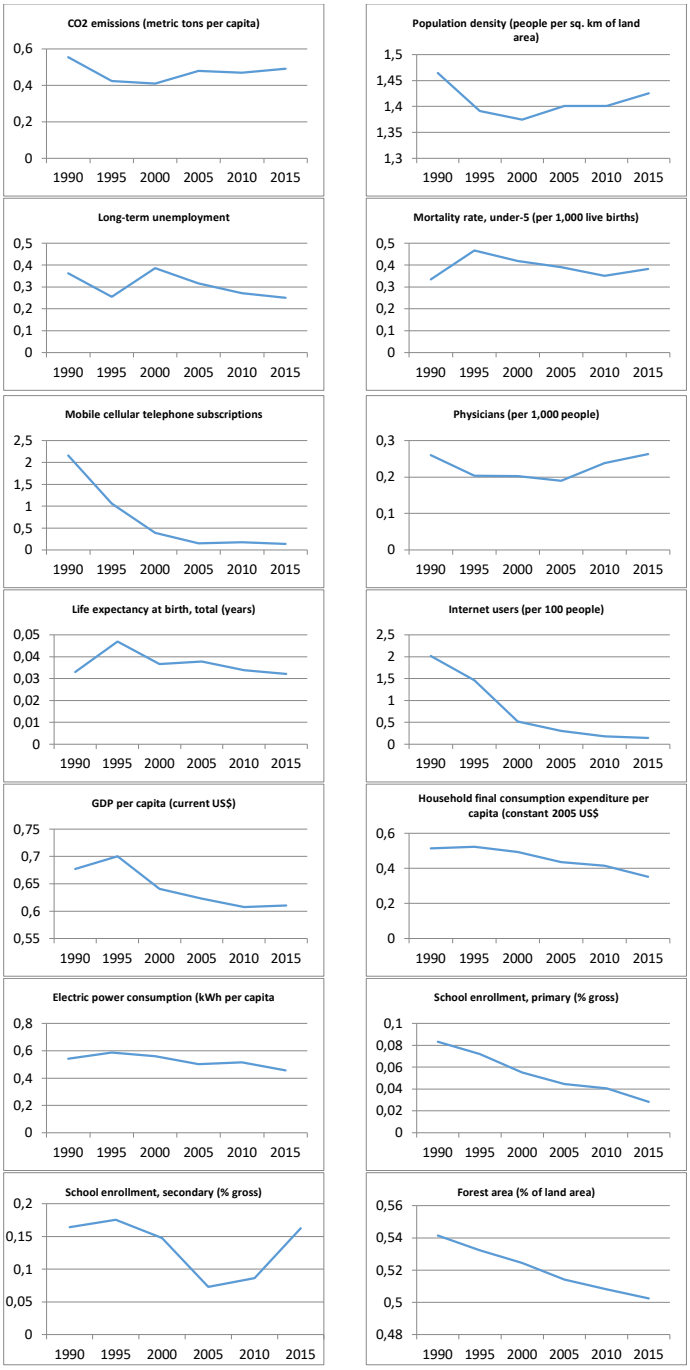

Figure 2: Volatility indices 1990-2015 Analysing Convergence in EU-19 Eurozone states.
Source: own calculations.

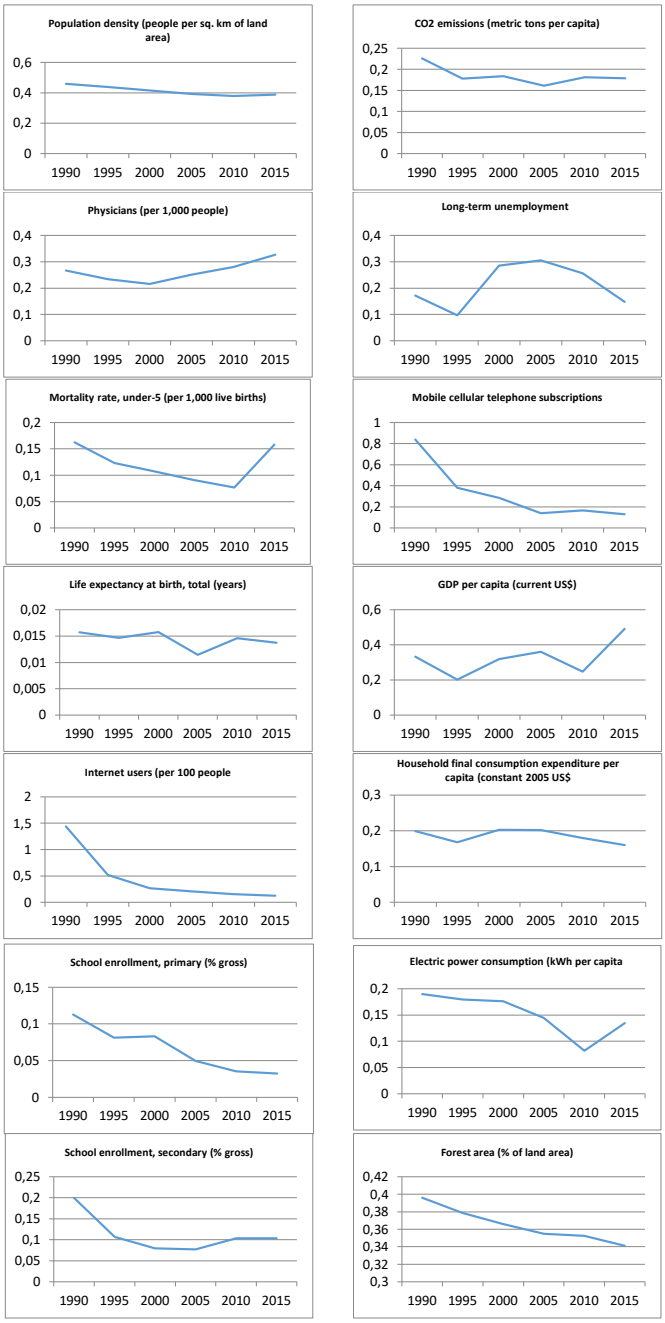

Figure 3. Volatility indices 1990-2015 Analysing Convergence in PIIGSC.
Source: own calculations.

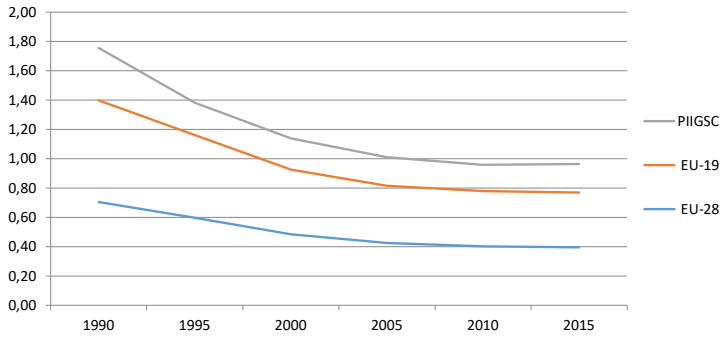

Figure 4: Average Volatility Indices 1995-2015 –various country groups.
Source: own calculations.

Related to the concept of convergence is the issue of disparities between EU countries and their evolution over time. The question of the temporal evolution of inequalities is investigated by country-ranking tables, based on the quality of life index. The quality of life index takes the following form:

$$QOL = \frac{\sum_{k=1}^{N}(w_k a_{ki})}{\sum_{k=1}^{N}(w_{kj})} \; for \; i = 1,2,3, \ldots m$$

Where,
α_{ki} = the kth indicator of country i
w_k = the weights for the k indicator
N = the number of indcators considered
m = the number of countries being examined

The weights *wk* can equal *1/N* or be assigned *a theoretically* using principal component or survey results. It is worth pointing out that, in this investigation, the use of weights of individual variables has not been included with appropriate shaped questionnaires. Even so, it could be the subject of a future research. As is commonly established, people's needs and priorities have changed in recent years. As so, the specific weight of individual indicators may not remain stable, but change over the period of two decades. Likewise, this may be an element of the utmost importance for the quality of life in Southern European countries, which does not equally apply to improving the quality of life in Northern European countries due to the diversity of their needs. The quality of life index in a country is the middle value of the modified (scaled) variables. The modified value of a variable *X*, *X* * is between 0-100 and is defined as follows:

$$X^* = 100 \; (X\text{-}Xmin) \; / \; (Xmax\text{-}Xmin)$$

Where *X* is the value of the variables, and *Xmin* and *Xmax* are the minimum and maximum values respectively. *X* * is the modified value of the variable, only for

variables that are positively related to the quality of life and *X * = 100- [100 (X-Xmin) / (Xmax-Xmin)]* for variables that are negatively related to the quality of life index (e.g. long-term unemployment, carbon dioxide emissions, population density, and mortality below 5 years). Results appear in **Tables 3** and **4**.

Table 3: Indices of Living Standards: Scaled index rating for the EU-28.

	1990	1995	2000	2005	2010	2015
Sweden	1	1	1	2	1	1
Finland	2	2	3	1	2	2
Austria	3	5	5	5	4	4
Denmark	4	3	7	4	5	5
France	5	6	10	9	8	8
Netherlands	6	7	4	6	7	10
Germany	7	10	12	12	11	9
Belgium	8	9	8	13	13	6
Luxembourg	9	4	6	3	3	3
Italy	10	12	9	10	10	11
Spain	11	13	2	7	6	7
U.K	12	14	13	8	22	23
Latvia	13	27	26	22	20	20
Greece	14	15	18	15	12	18
Lithuania	15	16	21	20	16	16
Estonia	16	22	17	17	17	14
Czech Republic	17	17	19	19	15	17
Portugal	18	11	11	14	14	21
Ireland	19	18	14	11	9	12
Slovenia	20	19	15	18	19	15
Slovakia	21	23	22	23	24	24
Cyprus	22	8	16	16	18	22
Croatia	23	20	20	24	25	26
Bulgaria	24	26	27	27	26	27
Malta	25	21	24	25	27	19
Hungary	26	24	23	21	23	25
Poland	27	25	25	26	21	21
Romania	28	28	28	28	28	28

Source: own calculations

Table 4: Countries with a higher, equal or lower Life Quality Index (ascending classification) EU-28.

1990	1995	2000	2005	2010	2015
Countries with QOL > Average	**Countries with QOL > Average**	**Countries with QOL > Average**	**Countries with QOL > Average**	**Countries with QOL > Average**	**Countries with QOL > Average**
Netherlands	Netherlands	Netherlands	Netherlands	Netherlands	Netherlands
Germany	Germany	Germany	Germany	Germany	Germany
Denmark	Denmark	Denmark	Denmark	Denmark	Denmark
Sweden	Sweden	Sweden	Ireland	Ireland	Sweden
United Kingdom	France	United Kingdom	Sweden	Sweden	France
France	Luxembourg	France	United Kingdom	France	Luxembourg
Luxembourg	Belgium	Luxembourg	France	Luxembourg	Belgium
Belgium	Austria	Belgium	Luxembourg	Belgium	Austria
Austria	Finland	Austria	Belgium	Austria	Finland
Finland	Italy	Finland	Austria	Finland	Italy
Italy	Spain	Italy	Finland	Italy	Spain
Spain	Cyprus	Spain	Italy	Spain	
Latvia	Portugal	Portugal	Spain	Greece	
			Portugal	Portugal	
Countries with QOL =Average	**Countries with QOL =Average**	**Countries with QOL =Average**	**Countries with QOL =Average**	**Countries with QOL =Average**	**Countries with QOL =Average**
Greece	United Kingdom	Ireland	Greece		Ireland
Countries with QOL <Average	**Countries with QOL <Average**	**Countries with QOL <Average**	**Countries with QOL <Average**	**Countries with QOL <Average**	**Countries with QOL <Average**
Ireland	Ireland	Slovenia	Slovenia	United Kingdom	United Kingdom
Slovenia	Slovenia	Czech Republic	Czech Republic	Slovenia	Slovenia
Czech Republic	Czech Republic	Greece	Cyprus	Czech Republic	Czech Republic
Cyprus	Greece	Cyprus	Estonia	Cyprus	Greece
Estonia	Estonia	Estonia	Poland	Estonia	Cyprus
Poland	Poland	Poland	Lithuania	Poland	Estonia

Continued **Table 4:** Countries with a higher, equal or lower Life Quality Index (ascending classification) EU-28.

1990	1995	2000	2005	2010	2015
Lithuania	Lithuania	Lithuania	Slovakia	Lithuania	Poland
Slovakia	Slovakia	Slovakia	Malta	Slovakia	Lithuania
Malta	Malta	Malta	Hungary	Malta	Slovakia
Portugal	Hungary	Portugal	Croatia	Hungary	Malta
Hungary	Croatia	Hungary	Latvia	Croatia	Portugal
Croatia	Latvia	Croatia	Romania	Latvia	Hungary
Romania	Romania	Latvia	Bulgaria	Romania	Croatia
Bulgaria	Bulgaria	Romania		Bulgaria	Latvia
		Bulgaria			Romania
					Bulgaria

Source: own calculations

3.4 Discussion

Two statistical measures have been used to assess convergence and the evolutionary process of inequalities among EU-Member States between 1995 and 2015. Unlike previous studies, this research concentrates on measuring convergence in terms of a combination of economic and quality of life variables; indices that are consistent with the spirit of the Lisbon European Council and in accordance with the structural indices for nominated or real convergence between EU countries. The results of the first approach are presented in **Figures 1** through **3** as well as in the **Table 2**, while the results of the second approach are presented in **Tables 3** and **4**.

More specifically, in examining **Table 2**, it is easy to conclude that, between 1990 and 2015, there is a low trend for convergence between EU-28. Inequalities have been reduced sufficiently since the average rate of coefficient of variation was 0.70454, 0.59639, 0.48475, 0.42426 0.40146 and 0.3951 in the years 1995-2015 respectively. The average coefficient of variation is constantly decreasing, which confirms the tendency for convergence. The conclusion remains the same for EU-19 (see **Table 3**). **Figure 1** illustrates the changes in the coefficient of variation for the fourteen relevant variables for EU-28. First, the real convergence was achieved during the period 1990-2005 for all variables used in this study. For some of them, the process of convergence continued until 2010. This is the case for GDP per capita, primary, and secondary

school enrolment for EU-28[16]. Household final consumption expenditure per capita, mobile cellular telephone subscriptions, and forest area (% of land area) converged even after 2015, not only for EU-28, but also for EU-19.

Second, it appears that disparities increased mostly after 2010. Disparities in the field of education (secondary school enrolment), in healthcare (physicians per 1,000 people), mortality rate, and population density increased after 2005. The evolution of disparities can be related to business cycles, and the global economic crisis. A number of arguments can be put forth to explain the idea that "convergence tends to dominate in periods of strong growth, and to recede in periods of stagnation".[17]

Third, since 1995, a decrease in economic and social disparities among Member States is detected, especially in the field of infrastructures (forest area and CO2 emissions), and communication (Internet users, mobile-cellular and telephone subscriptions), as well as in population density, long-term unemployment, physicians per 1000 people and primary school enrolment for EU-28, EU-19, and PIIGSC. GDP per capita shows a trend for convergence until 1995 only for PIIGS (the results are opposite to those of EU-28 and EU-19).[18] However, monetary convergence was not achieved during the 1990s. Economic and social convergence can be attributed to the EU policies followed, especially after 1990. At the European Council of Brussels in February 1988, a decision was made to double the resources of the three structural funds (European Social Fund, European Regional Fund, FEOGA (guidance section)) and to change the Common Agricultural Policy. Additionally, the Delors Package was recognized as necessary for the successful implementation of the Internal Market programme.

The graph illustrating the average of the 14 variables reveals that inequalities and differences in quality of life between the 28 countries of Europe have declined throughout the 25 years—i.e. between 1990-2015—resulting in greater convergence between countries. This convergence appears to be more concentrated in the period between 2010-2015 in the field of infrastructures and in the field of economy and development not only for EU-28 but for EU-19. However, the indices for primary and secondary education, with a sharp divergence in 2015, are outlined. In reducing disparities, the policies of the European Union played a major role: First, in (a) agricultural policy with the main objective of increasing agricultural productivity, and thus ensuring a fair basic level in the agricultural sector, stabilizing markets and ensuring fair prices. Second, in (b) industrial policy so as to create competitive,

16 The results remain the same for EU-19, with exception the index secondary school enrolment where after 2015 there is a sharp divergence.

17 See Commission of the European Communities 1990, p. 216. However, recent results for the UK (for the period 1977-1991) suggest that this might not always be the case (Chatterji & Dewhurst, 1996).

18 With the exception of the secondary school enrollment (% gross), mortality rate, under-5 (per 1,000 live births), and life expectancy at birth.

efficient, and targeted markets, favourable climate—especially for small and medium-sized enterprises—to promote research and development, networking, and business cooperation. Third, in (c) regional and economic policy of the European Union, where according to the preamble of the treaty establishing the EEC, it is a common concern for strengthening and ensuring harmonious development by reducing the differences between the various regions and achieving the development of backward and less favoured regions. This was one of the main reasons for the creation of the EEC decision. Fourth, (d) technological policy. The contribution of research and technology to regional development, as well as to the cohesion of the European community, has been highlighted many times. Community technology policy is directly aimed at enhancing the role of research competitiveness, comparing with US and Japan, as well as strengthening community cohesion and balancing regional differences between the Member States of the European Union. Fifth, and finally, the EU played a major role in e) the European Social Policy.

Table 3 shows the average of the rankings made based off of the modified value of the variables that affect the quality of life among the 28 countries of the European Union. It reveals that between 1990 and 2015, Nordic countries such as Sweden, Finland, Austria and Denmark were among the countries that possess the top five positions in terms of living standards. At the opposite end of the scale, Romania, Bulgaria, and Latvia occupy the last three positions. These figures do not show a uniform convergence movement between Southern and Northern European member states. The position of Greece shows deterioration, especially for the period between 1990-2005: where, ranking as 13th in 1990, it dropped to 15th in 2005. From then on, it continued to improve until 2010, where it held 12th statically. In 2015 however, it dropped again to its lowest position at 18th, thus indicating a decrease in the quality of life index. Spain and Ireland, on the other hand, have significantly improved their positions respectively between 2000-2015.

Table 4 illustrates countries that have a higher than average quality of life index, equal, or less than average for each time period. Sweden ranks first for the whole period of the survey, with the exception of 2005, where it drops to 2nd place after Finland, followed by Denmark, Austria, and Luxembourg. Contrastingly, Hungary, Malta, Croatia, Poland, Bulgaria and Romania are among the lowest. Greece between 1990 and 2005 presents an average life-quality index, while in the period 2015 it drops to lower than average. For the same period (1995), Cyprus and the UK also show a declining trend. This may be due to the economic crisis of 2008 and the painful austerity programs implemented. As reflected in the Eurofound report, entitled The quality of life in Europe: *The impact of the crisis* (2013), the EU witnessed a growing trend in unemployment rates, social exclusion, worsening social conditions, coupled with an increase in citizens' mistrust of public institutions, particularly governments and national parliaments reproached for being at the centre of political corruption. Understandably, all of this has led to increased social tension, both amongst racial

groups as well as socio-economic classes. What was initially a financial crisis has, in some countries, given way to a social crisis.

One of the main consequences of the economic crisis is the high unemployment rate, particularly long-term and youth unemployment, which has had undoubtedly grievous ramifications on working conditions in Europe as a whole. It has also been particularly detrimental to certain aspects of society, including work-life balance. Even so, the impact of the crisis in the European Union has varied from country to country. The downturn in GDP, coupled with increasing unemployment, has taken its toll, particularly on Southern European countries such as Greece, Portugal, and Spain; although, certain northern European countries, such as Ireland, have also felt the backlash.

Convergence has also been assessed separately for the 19 member states (Eurozone), as well as for the PIIGSC countries[19] and represented in **Figures 2** and **3**. These figures are similar to the previous graphs (**Figure 1**). The latter, however, are more intensified in terms of convergence, implying that EU regional policy has had some pertinent effects. **Figures 2** and **3** contrastingly, show that EU-19 countries are more homogenous in terms of economic, monetary, and social indicators. A noteworthy pattern is also determined over time for the two groups in terms of residents enrolled in primary education. It is obvious that there is a strong trend for divergence for EU-28 countries in the period 2010-2015 (during the financial crisis), whilst the opposite is observed for EU-19 and PIIGSC during the same period. In comparison, there is a trend for convergence in the proportion of residents enrolled in secondary education for all the sub-groups in the same period.

There are many explanations for the increase in regional inequalities observed in Southern Europe in the second part of the 1990s. One factor involves the effects of trade liberalization as a result of the internal market programme. In the presence of increasing returns and agglomeration economies, such liberalization increased disparities between member states (Krugman & Venables, 1990), where Southern Europe was negatively impacted by the process of trade liberalization across Europe. According to another explanation, there are structural differences between Southern and Northern European states and, therefore, the adjustment process is different. Blanchard et al. (1992) concentrate on production factor-movements and labour-movements in particular. They observe large and persistent disparities in employment growth across states. They also show that when regions are hit by negative shock, unemployment initially increases, leading to an exit of workers from the specific markets and regions. Accordingly, the difference between Northern and Southern regions could be attributed to different migration patterns due to increased unemployment rates in specific regions.

19 These are countries: Portugal, Italy, Ireland, Greece, Spain and Cyprus.

3.5 Conclusions

The purpose of this study was to investigate convergence and test it empirically across countries of the EU between 1995 and 2015. Convergence was defined not only in terms of economic indicators, but also in terms of social and quality of life indicators. We computed real convergence by evaluating a coefficient of variation based on economic and quality of life variables. Given this convergence/divergence process, some countries may improve or worsen their position, relative to others. This was analysed by looking at the evolution of a quality-of-life-based ranking. It is confirmed that real convergence was achieved during the period 2005-2015 for most of the countries. Convergence stagnated in 1990-2000 before increasing again. We noticed that Sweden, Finland and Denmark occupy the top positions in quality of life index. Countries of Eastern and South-Eastern Europe place last in quality of life index.

This analysis may be an indispensable tool for European policy-makers to make significant financial resources available to apply appropriate economic policies in countries facing significant difficulties and lagging behind in a quality of life. This can lead to a broader redistributive policy community. The creators and designers of European Community policy should implement various financial assistance programs in order to achieve normalization of inequalities and to upgrade countries with low quality of life. This has the potential to eliminate regional disparities and imbalances both between member states and at a regional level, which in turn may prevent political tensions and frictions. Moreover, the analysis should be extended when additional data on the quality of life become available to determine whether our conclusions can be reconfirmed.

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4 Cohesion Policy or Politics? A Case on the Participation of Civil Society

Oto Potluka[20]

4.1 Introduction

Partnership principle and participation help increase relevancy of policies. It also concerns the EU cohesion policy – one of the largest EU investment policies. Our study concentrates on the role of non-profit organisations in partnership and their added value in the Czech Republic, a country with very low perception concerning non-profit organisations in policy-making among population. Based on 48 interviews with stakeholders from both the non-profit and the public sectors, who took active part in designing EU cohesion policy programmes, we draw our findings on capacities, relevance, and barriers of an effective participation of non-profit organisations in partnership processes in the Czech Republic.

Designing and implementing programmes, financed by the European Union (EU) cohesion policy, enhances partnership among sectors. Partners vary between firms, associations, non-profit organizations (NPOs), and public sectors at all levels. Though such partnership diversity brings different views on policy, it also helps achieve long-term sustainability and relevance of policies overall (OECD, 2001b: 18)[21]. Partnerships also involve EU cohesion policy objectives, especially as it relates to the dichotomy between social and economic development (Kalman, 2020). The European Union provides a legal framework for partnership implementation. The EU Regulation No. 1303/2013, Article 5, states that NPOs must take part in designing and implementing the EU cohesion policy as social partners. This policy covers the main fields of activity that NPOs are engaged in. Thus, it can be expected that NPOs will take an active role in this policy.

Involving partners with relevant knowledge and skills enables policy-makers to respond to peoples' needs. To identify these needs, relevant partners could be invited to provide the policy-makers and programme managers such knowledge. This can increase the relevance of selected solutions according to perceived societal needs. Moreover, in the case of the EU cohesion policy, satisfaction in needs that have been met could cause positive perceptions on territorial identity (Capello, 2018)—or EU identity and EU integration process. The current situation does not seem to reflect this

20 CEPS, University of Basel. Correspondence : oto.potluka@unibas.ch

21 See the cases of health policy, social policy, educational policy, or environmental policy in OECD (2001a).

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as the EU territorial identity has not been clearly created (Capello, 2018). This raises several questions: Do the NPOs efficiently add to the cohesion policy design and implementation when they take part? What is the added value of NPOs in cohesion policy? Would intense participation in NPOs increase positive perception of the EU cohesion policy and the EU? Does it increase the relevance of the policy? Beyond these questions, the present paper investigates the following two key questions: What lessons can be drawn from the successes and failures of cohesion policy through involving NPOs in the design and implementation of this policy? What determines success and failure of programming when NPOs take part in it?

The added value this chapter contributes to the partnership theme is that the Czech Republic belongs to the countries with very low public sector support provisioned to other stakeholders when they take part in the design and implementation of public policies. Moreover, the Czech society tackles similar post-communist problems as other EU member states from Central and Eastern Europe, even though it has been almost three decades since the totalitarian regime collapsed. This study also concerns the perception of the population in these countries relating to the EU and integration processes. Thus, the Czech experience can reveal relevant solutions for the implementation of the EU cohesion policy in other EU member states.

The chapter is structured into five sections as follows: following the introduction, the next section outlines the partnership principle from the perspective of participation of NPOs in political decision-making and its relevance for the EU cohesion policy with respect to Czech NPOs. Section three is devoted to methodological issues, including data collection. Section four presents the results and discussion in seven parts according to the characteristics of the ideal partnership process. Finally, section five presents the conclusion drawn from the data analysis of our findings.

4.2 Partnership Principle

4.2.1 NPOs in Political Decision-making

The current disengagement of the electorate from participating in the political process between elections accentuates the significance of integrating the social partners including NPOs into the policy-creation process. While 12% of EU citizens perceive joining a political party as a means to influence public policies, 6% of them see the membership, or the support of an NPO, as a means to influence the political decision-making process (TNS Opinion & Social, 2012: 44). The main difference is that the sole purpose of the political parties' existence is the facilitation of popular participation in politics and policy-making, while NPOs occupy completely different roles. Interestingly, according to 41% of European citizens, NPOs are not necessary (TNS Political & Social, 2013: 9).

Although Czechs view NPOs as being necessary (54% pro; 40% contra), their confidence in NPOs' capabilities to influence political decision-making is the lowest among all EU member states (TNS Opinion & Social, 2012). The European perception of NPOs in politics differs. Among Europeans, 70% of them see NPOs as capable of influencing political decision-making at a national level (TNS Political & Social, 2013: 13). Only 55% of Czech respondents hold this to be the case. Comparatively, on an EU-wide basis, the disparity is very similar with respectively 53% (EU) and 37% (Czech Republic). Moreover, less than half of Czechs share values or interests with NPOs and trust their capabilities to be effective political agents to influence politics (TNS Political & Social, 2013: 9).

Such circumstances are unique for a study of the main barriers that NPOs must tackle with when attempting to change policies. Moreover, the Czech Republic represents a case of a country belonging to the EU member states with the highest *per capita* allocations of EU cohesion policy funding. Thus, an analysis of the partnership principle implementation in such an environment can serve to highlight hidden barriers and help promote the effective implementation of this policy.

4.2.2 Partnership Importance in EU Cohesion Policy

The EU cohesion policy with a budget of EUR 351.8 bn. (EC, 2015) plays an important role in the EU investment policies, especially for development of regions lagging behind. Among the main objectives of the policy are the creation of jobs; an increase in competitiveness and economic growth at regional and company levels; sustainable development, and the improvement of quality of life standards (EC, 2015). These objectives make this policy interesting for many stakeholders, and are welcomed by the EC. Social partners, including civil society, European, national, regional and local-level partners should participate in the programming process, which includes design, implementation, monitoring and evaluation activities.

The partnership principle is not a recent issue for the EU cohesion policy. Previous programming periods, starting from 1994-1999, also encountered this in the past. For example, the partnership has been referred to in Article 4 of the Regulation 2081/1993. The member states implemented partnership "within the framework of each Member State's national rules and current practices" and "in full compliance with the respective institutional, legal and financial powers of each the partners." During that time, the European Union used the approach more extensively (Piattoni, 2009).

The scope of partnership principle implementation was more on consultancy level, but it had been further refined and broadened. Later, in the period between 2000–2006, a requirement on highest possible representativeness at all levels had been added to the Regulation 1260/1999 (the Article 8). Direct reference to civil society appeared in the Regulation 1083/2006, Article 11. Thus, the importance of civil society

as partner for the EU cohesion policy grew in the programming period of 2007–2013. Moreover, the regulation required involvement of the partners in designing, implementing, and monitoring of all levels of policy-making (within the respective national strategic reference framework and all operational programmes).

The recent development goes further. Not only does Regulation 1303/2013 define partnership in a broader scope, but it also introduces a tool on how to implement it in Article 5. The European Code of Conduct on Partnership (EC, 2014) further provides elaborated guidelines on how to implement this principle. The partnership principle has undergone numerous developments ever since it has been introduced for the first time in the cohesion policy. Although the partnership is strongly rooted in the EU regulations, these regulations permit its implementation in accordance with national rules and practices. The size and role of civil society organizations also varies among Western European societies (Salamon & Anheier, 1998; or Sissenich, 2010) depending on traditions and political culture. Constitutional arrangements influence the form of partnership in member states (Baun & Marek, 2008: 33). This has a crucial consequence for partnership implementation in countries with low participative cultures or with a centralized public administration. It concerns mainly the Central and Eastern European countries (CEECs). In these countries, partnership is an informative process, rather than a consultation. As a result, a low level of involvement from NPOs on partnership is still prevalent in the EU cohesion policy (Kendall & Anheier, 1999).

According to the social origins theory (Anheier, 2014; Salamon & Anheier, 1998; Salamon, Sokolowski, & Haddock, 2017), the CEECs have a statist non-profit sector model with less important civic engagement, volunteer input, and lower labour force working for civil society. Though the Czech Republic and Hungary have moved out of the statist group, they still do not have the same dominating patterns as other groups (Salamon et al., 2017). Taking into account the societal characteristics, our research results are applicable to countries with a similar non-profit sector model; especially those in the CEECs (Baun & Marek, 2008: 11-12).

The ease of setting up a partnership is evident through the implementation of the *acquis communitaire* in accessing countries. Reasonably, the European Commission (EC) required implementing it, but within a short timeframe it had been implemented without accessing countries enabling partnership. These countries did not have the options to negotiate the scope and form of implemented policies (Grosse, 2010; Kutter & Trappmann, 2010). Thus, the partnership processes and means were not ready for application in the shortened programming period 2004-2006 for that time accessing countries. One exception is the case of Eastern Germany, where the participative experience was introduced to the public administration from Western Germany in 1990 (Perron, 2014).

The implementation of the partnership principle developed throughout the two periods 2007–2013, and 2014–2020. All partners gained some experience (Potluka, Špaček, & Remr, 2017). The progress in development is evident in the whole system

and relates to capacities of both the managing authorities and beneficiaries. The approach to implementation of partnership, selected during the accession and post-accession period as political processes, results in a top-down approach to partnership implementation. Moreover, NPOs do not possess adequate financial and personnel capacities in the post-communist countries.

4.2.3 Partnership & Policy Relevance

In democratic countries, political parties offer their programmes to attract the attention of voters. This means that, at least before elections, they are interested in voters' opinions[22]. What happens in the timeframe between elections? Are the public needs so irrelevant as to be unknown to politicians? For long-term relevance, acceptance and sustainability of public policies, knowledge of the public's needs is crucial (EC, 2004: 9; Kelleher, Batterbury, & Stern, 1999: 16). Public participation is not only important because programmes have to help solve public problems, but also because of the co-financing the EU cohesion policy programmes from the national public budgets. Neglecting these needs may cause problems for programme ownership, which can lead to further issues, risking the programmes' outcomes. From this point of view, Mairate (2006) identified partnership as a condition influencing greater effectiveness in the EU cohesion policy.

On one side, even partnership may cause some problems. Milio (2014) and Perron (2014) pointed out that rent-seeking and democratic deficit are issues that also concern EU cohesion policy implementation. In such cases, it is necessary to be aware of the defining aspects of a partnership. They cover whether or not the partnership is successful as well as the following seven issues: First, clarity and sharing of the partnership's goals by all partners, where partners perceive the goals the same way and their attempt to achieve them. Second, partnership provides benefits to all partners, where partnership provides positive internal value to each partner. Third, long-term cooperation of partners, where partnership is not only limited to one short-term project. Fourth, acceptance of the form of partnership, partners understand and accept the means of work. Fifth, added value of each partner, where each partner contributes added value and what would otherwise be missing. Sixth, positive external value of partnership, where synergy in the total effects of partnership is higher than the sum of separate effects of each partner. Seventh and finally, decisions are made by all partners, where decision is based on the consent of all partners.

The EU cohesion policy is specific in its programming cycle. The managing authorities collect needs about three or two years before the programming period

22 Consult the literature about political-business cycle in CEECs in Hallerberg, Vinhas de Souza, and Clark (2002).

starts. The programming period is seven years long. Together with the rule, N+2 (two-year period to finalize the payments), it initiates 11 years of implementation. It is clear that it is a long time for the needs to remain unchanged.

4.2.4 Development of Civil Societies' Capacities in CEECs: Focus on The Czech Republic

Although partnership studies are mainly from a political point of view, the civil society development has two aspects: economic and political (Lane, 2010). Eastern and Western European countries witnessed different developments. The Western European countries developed economically first which allowed civil societies in these countries to take part in social and political life. Post-socialist countries were under a time pressure in the 1990s, thus trying to transform their societies simultaneously in both dimensions. As a result, the economic foundations of civil society in post-communist countries are not sufficiently strong to provide political activism. As such, the political parties remain the core decision-makers in politics (Frič, 2004). Positions of former president, Vaclav Havel, and the Prime Minister, Vaclav Klaus, reflected such a clash of attitudes towards civil society in the Czech Republic (Potůček, 1999). While Havel was a proponent of civil society, Klaus supported the role of political parties as core brokers in political decision-making without participation of any other agents, especially civil society organisations.

In theory, the partnership principle allows NPOs to take part in political decision-making. From this perspective, the accession of the Czech Republic into the European Union in 2004 offered new opportunities to Czech NPOs, especially in the field of the EU cohesion policy[23]. There was quite a high awareness among Czech NPOs about partnership and requirements for participation in the political decision-making process, including EU cohesion policy (Černá & Marek, 2003: 174-175). In contrast, NPOs suffered from insufficient capacities, either economic or socio-political (Frič, 2004; Rose-Ackerman, 2007).

Heterogeneity and missing support of umbrella associations had caused a need for the public sector to cooperate with heterogeneous groups of NPOs (Černá & Marek, 2003). Together with low awareness on how to participate in partnership and capacities among NPOs, this resulted in the selection of NPOs' representatives for monitoring committees to be based on willingness of these people to take part. Thus, the selection process was criticized for its lack of transparency.

Soon after the accession, disillusionment among civil society organisations followed expectations in all new member states (Harvey, 2004). The crucial issue in

23 These expectations concerned all Central and Eastern European countries. For details, see Sudbery (2010).

NPO capacities to take effective part in partnership is the lack of sufficient capacities. Most importantly are the financial capacities, which would enable NPOs to get personnel, equipment, and so on (Bowman, 2011; Carmin, 2010). Lack of funding has led NPOs to sacrifice planning long-term strategic objectives and, instead, focus on achieving short-term operational goals (Chin, 2017). It caused a shift from NPO objectives and issues to providing parts of public-policy programmes. The situation did not improve much in the second nor in the third programming period after accession (Polverari & Michie, 2009; Potluka, Špaček, et al., 2017).

The lack of strategic approach from the civil society sector is also evident in its inability to set up self-governing bodies until the beginning of the 2000s. These would be representatives in negotiations with the public sector. Such roof associations would represent the civil society sector in partnership with the public sector. Too many individual stakeholders make the policy discussion difficult to manage. Thus, pre-negotiation within associations could settle these complications and sort out heterogeneous ideas.

Two types of associations appeared in the 2000s. First, national associations that unified civil society as a generic sector and creating self-administration in the sector. Such a case is the Association of NPOs in the Czech Republic (ANNO). Second, a group of associations represent interests on their field of specialisation. Some regional associations became members of the ANNO, making it difficult in turn, for public servants to ascertain representativeness of the ANNO[24]. Another deficiency of this umbrella organization is that it does not cover sport and environmental NPOs (Pospíšilová, 2014: 7). Moreover, a new association has been set up in 2010, The Association of Public Benefit Organizations in the Czech Republic.

4.3 Data & Methodology

We base the current study on a combination of information derived from official documents, data collected via in-depth interviews, and focus-group methods. By applying this approach, we cover not only the providers of the opportunity to take part in designing public policy (managing authorities), but also on those that benefit from this opportunity (NPOs).

Two groups of interviewees took part in the data collection. Czech NPO managers and experts constitute the first group. To be invited in the interviews, they had to have experience from the monitoring committees during the programming period 2007-2013, or be members of working groups set up by NPOs for the programming period 2014-2020. Employees of the managing authorities compose the second group

24 For an overview of representation among associations see Potluka, Špaček, et al. (2017).

(see below). Some of the interviewees had sufficient experience with the partnership and knowledge relating to the EU cohesion policy.

4.3.1 First Group of Interviewees

First, we collected a list of contacts of NPO representatives who were members of the Monitoring Committees (MCs) and working groups. The Czech Republic's Committee for the EU of the Government Council for Non-Governmental Non-profit Organisations and the ANNO provided us with the list of contacts. The websites of the particular operational programmes provided us with additional information and contacts.

We succeeded in collecting contact information for the 94 NPO representatives participating in the partnership for design and implementation of the EU funded programmes in the Czech Republic in the periods 2007-2013 and 2014-2020. Based on this, we succeeded in conducting 48 interviews with NPO representatives between July and September 2014. The associations' representatives were the main targets of our interviews, as they could provide information about other NPOs. Together with 15 national, and 10 regional, associations, six influential NPOs were represented in this sample. The other interviewees represented small NPOs (17), individuals who act as NPO position-makers, and experts from NPOs with an expertise in EU cohesion policy.

4.3.2 The Second Group of Interviewees

Representatives of managing authorities of regional and thematic operational programmes represent the second group of interviewees. From the 17 programmes implemented in the Czech Republic in the periods 2007-2013 and 2014-2020, we selected those who are the most interesting for the NPOs. Those are either programmes funded by the European Social Fund (ESF) or regional programmes. Among them, three interviewees were from the public sector representing programmes at regional level and five from national level. Moreover, interviews were conducted with two employees of the Committee for the EU of the Government Council for Non-Governmental Non-profit Organisations. These interviews were conducted between September and October 2014.

4.3.3 Interviews

During the interviews, we have discussed questions relating to ideal form of partnership and experience with it, participation of NPOs in the EU cohesion policy designing and implementation, and vision on how to implement this principle. We have defined questions according to the previous studies on partnership in the EU

cohesion policy by Adshead (2014); Gazley (2010); Milio (2014); Potluka and Liddle (2014). If needed, further questions also concerned personal expectations of the partners and their fulfilment.

To triangulate findings from different methods, we used (i) official documentation, (ii) in-depth-interviews, (iii) a focus group (held in October 2014 with 12 participants), and (iv) two rounds of peer-reviews (October and November 2014). This approach allowed us to construct a problem tree (EC, 2004) with the cause-effect relationships in the process of implementation of the partnership (see the **Figures 1-3**).

4.4 Results & Discussion

The analysis was conducted as though the partnership principle would be implemented in an ideal form, where partners benefit according to the core principles of the partnership principle (see the seven core aspects in the methodological section). It reveals what the main barriers to management of partnership principle in the Czech Republic are, but also that the capacities are developing on both the civil and public sectors levels. The particular results are discussed in the following subsection. The main issues, causes, and effects are visualised in the problem trees.

4.4.1 Clarity And Acceptance Of Goals By All Partners

Public sector has a clear goal in the EU cohesion policy: to prepare programming documentation and ensure that the programmes achieve a high absorption capacity. To achieve this goal, compliance with the demand-side of the programmes is needed. In the case of the public sector (municipalities, self-governing regions, and central public sector), the coordination mechanisms are given by the political system. For private companies and NPOs, it is given by partnership.

Variety of NPOs in their type, size, and activity-orientation belongs to their core characteristics (Pestoff, 2014). It also brings fragmentation of opinions and objectives. As so, it is quite difficult to make a consensus among NPOs. Participation of NPOs in particular working groups in which they are specialists solves such a situation. In specific fields, NPOs are capable of achieving consent as they are able to communicate similar issues. Another issue is the missing leaders among NPOs (contrary to political parties), who would be able to organise the sector and help set objectives. Hence, a lack of mutual communication about themes and common interests of civil society was missing. Likewise, the sharing of workload has transformed into a problem. Contrary to this statement, some interviewees declared positive practice in communication among NPOs; echoing a similar situation happening in the previous programming periods (Polverari & Michie, 2009).

Both the public administration and the civil society sectors perceive fragmentation among NPOs as an important barrier in implementation of the partnership principle. Three quarters of interviewees see particular interests as a problem of the civil society sector (**Table 1**). This situation is very similar to Hungary, Poland, and Romania for which Börzel and Buzogány (2010: 175-176) explain that, for environmental policies, there are missing stable relations among stakeholders.

Table 1: Particular interests as a barrier of partnership principle implementation.

Do you see particular interests of NPOs as a barrier of partnership principle implementation in the Czech Republic?		Frequency (N)	All Interviewees (%)	Valid responses (%)
Valid responses	No	9	18.8	24.3
	Yes	28	58.3	75.7
	Total	37	77.1	100.0
Missing responses	Interviewee could not decide	4	8.3	
	No answer at all	7	14.6	
	Total	11	22.9	
	Total	48	100.0	

Source: In-depth interviews with NPOs' representatives.

Among NPOs active in designing EU cohesion policy programmes and project management, there are four groups cooperating closely only when they see their particular benefit from the cooperation. As Potluka, Špaček, et al. (2017) point out, these groups are usually gathered around a strong entity (an NPO or a network) both formal and informal, of which ANNO comes first. As an organisation disposing of a number of contacts among the top managers of other member associations (47, of which 17 other associations, mainly regional), it is capable of mobilizing other NPOs to actively participate. This is evident from the process of nominations of the NPOs representatives in the EU cohesion policy partnership. This mobilization is done through regional associations. The importance of this group is underlined by the Platform 2014+, organised by ANNO, together with other organisations. Seven out of ten elected candidates for the MCs, are members of the Partnership Platform 2014+. In contrast, this association is criticized by other NPOs because of its consistent lack of respect to other civil society groups when performing its activities.

The second group has formed around an official public administration body, the Committee for the EU of the Government Council for Non-Governmental Non-profit Organisations. Being an advisory body of the Czech government, it has an advantage to communicate directly about EU issues between the Czech government and the civil society sector. Thus, other NPO representatives see it as a body representing the public sector interests and not of civil society.

The third group is a national network of local action groups. The local action groups engaged in their own way in the implementation of the EU cohesion policy in the programming period 2004-2006. They play the role of intermediary bodies, providing small-scale grants to micro-regional applicants. The decisions were made according to the partnership principle applied to the LEADER initiative, involving all key local stakeholders. Their position forms a partnership platform acting as an implementation structure. However, participation in the implementation process allowed the local action groups not only to gain experience, but also to be seen by their stakeholders as an element implementing the principle of partnership, achieving in turn, a respected position. The access to institutional funding, though not a large amount of money, makes the other groups of NPOs classify these groups as a part of the public sector.

The fourth group is the least structured, and consists of representatives of strong NPOs who bear their issues and promote them at any appropriate occasion. Preparation of new programming documents for the period 2014-2020 caused the NPOs to be able to unify across all platforms and groups and nominate representatives for all programmes. For a period of several months, they were able to create a great coalition in the Partnership Platform 2014+. **Figure 1** (on the right side) shows the causes and effects of fragmentation among NPOs.

4.4.2 Benefit for All Partners: Positive Internal Value

Internal value gained from the partnership is an issue of relationship between activities and funding. If the NPOs have to provide their advocacy activities in the EU cohesion policy funded only by them, they have to find a counter-value to justify funding of its participation. This means that they must try to find information about future funding for their core activities from the new operational programmes, or the change in the system has to pay off their effort.

For the managing authorities, the internal value consists of formal and informal issues. This formal partnership enables them to fill the requirement of the European Commission on participation of social partners as stakeholders. The expertise, effort, and ideas provided by partners provides informal value added to the managing authorities. It varies according to partners involved, their experience, and effort. As Chin (2017) points out, policy advocacy in NPOs is the strongest at policy implementation

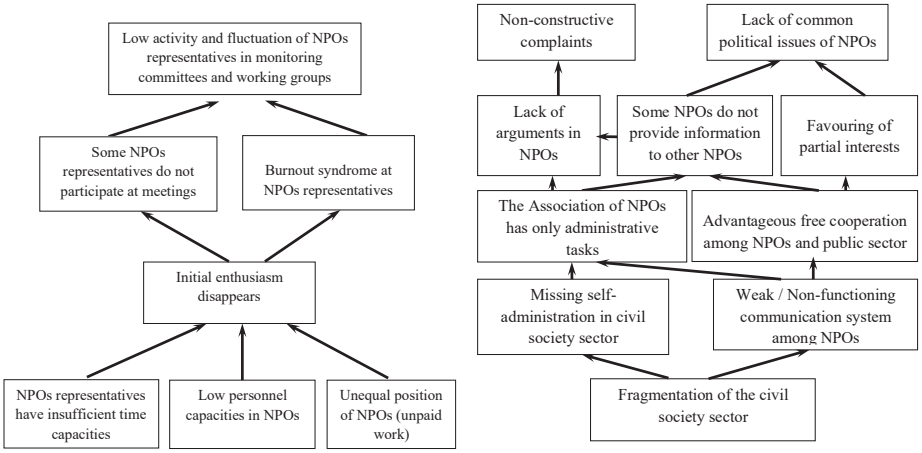

Figure 1. Causes and effects of problems in partnership of civil society and public sectors in the EU cohesion policy in the Czech Republic: Dependence on capacities and fragmentation of the civil society sector.
Source: in-depth interviews, own elaboration.

and administrative level within advisory and working groups in comparison to macro-policy level. Thus, the managing authorities could gain expertise and internal value according to the partners selected. It relates to the selection process in which the best appropriate partners are selected into the partnership.

Previous experience (programming periods 2004-2006, and 2007-2013) shows low knowledge of NPO sector within the public sector and lack of skilled experts to offer by the NPOs sector. Such a situation resulted in the selection of NPO representatives known to managing authorities without a selection process among NPO representatives. For the period 2014-2020, the selection process differed substantially. The NPOs selected their own candidates to represent them in Partnership Platform 2014+. This platform existed since 2012 and organized the nomination process within a few weeks in late 2012 and early 2013 to offer candidates of NPOs to all working groups in all operational programmes. This process was led by the ANNO. The initiative succeeded to collect 120 volunteering representatives from NPOs. Thus, 54 NPO representatives were actually selected, receiving the opportunity to participate in the partnership. This involvement proves high internal value for NPOs when they participate in designing the cohesion policy programmes.

As Potluka, Špaček, et al. (2017) found, representatives of both NPO and the public sector considered the system of pre-selection of NPO representatives by NPOs as efficient and transparent enough. It provides these representatives with a much stronger mandate and legitimacy in comparison to previous programming periods. NPOs were satisfied mainly with the bottom-up process, while the managing authorities with the representativeness of the participating NPOs. This process

brought new experience as an unprecedented number of NPOs engaged in it. This variety entails the involvement of experienced NPO representatives, but also those who have no previous experience with the partnership principle and little knowledge of the EU funds management at all.

4.4.3 Long-Term Cooperation Among Partners

Reiterating from the section on internal value of partnership, the NPOs´ highest effort concerned the creation of new priorities in the operational programmes. Partnership for following seven years enables partners to receive information directly on the focus of the operational programmes, if they fail to persuade managing authorities to accept their own proposals. As Potluka, Špaček, et al. (2017) point out, NPO initial interest declines gradually as they carry out their work in the working groups and MCs as volunteers. The authors mention that only two of all NPO representatives in the monitoring committees were willing to continue in their work for these bodies.

Moreover, the low ability of non-profit organizations to promote their intentions on the long-term causes disillusionment and diminished willingness to continue the partnership with the public administration. In combination with the fact that the costs (of work and transportation) of the NPO representatives are covered either by themselves or by their respective organizations, it is clear that this is not an interesting approach for the NPOs. Importance of funding to support the advocacy activities lead NPOs to convert their activities again to their previous day-to-day service provision to clients (Chin, 2017). According to the interviewees, about 26.7% of NPO representatives lost their initial enthusiasm. This caused high fluctuation among the NPO representatives, as they did not a perceive long-term value for their participation.

Fluctuation does not concern only the NPO representatives, but also the management in the public sector. Here, the turnover is stronger due to change of government top managers after each election. From this perspective, long-term cooperation among partners seems to be a problematic issue. It is more or less formal as it lasts officially at macro-level, but at micro-level, changes appear and long-term memory disappears as people who left usually take their social know-how with them.

4.4.4 Accepted Form of Cooperation

The form of cooperation influences willingness of partners to cooperate. According to interviewees from NPOs, the form of partnership is impersonal. They were able to discuss some issues with the public sector, but it required more intense discussion. Even when proposing changes, it is not clear to many representatives of NPOs how the public sector addressed their comments. Comments with low importance (such as phrasing) were usually accepted. Some working groups have succeeded in persuading

the Managing Authorities to expand the potential beneficiaries by NPOs. On the contrary, suggestions have been rejected on reallocation of support to NPO priorities.

NPOs entered the partnership process when the programming documents already existed. Representatives of new NPOs did not have much time to understand and to influence the focus of the upcoming programs. Working group meetings were often held in response to developments at national level or negotiations with the EC, without the possibility of producing strategic documents. This was partly due to the fragmented civil society sector. Already in 2011, representatives of the National Coordination Unit asked ANNO, which is considered to be a non-profit sector representative, to start the partnership process for NPOs. The ANNO did not share this information with other NPOs. The change in its attitude came with the change of the board of directors in ANNO. This has delayed the partnership process by several months.

Fragmentation of perception of the NPO representatives is evident as they see open communication with public sector. Opinions have emerged that have evaluated the positive attitude of the public sector as well as some criticisms of the form and content of the communication. Such a communication and participation resulted in a lacking long-term plan among NPOs on their participation. **Figure 2** summarizes the causes and effects of the problematic attitude to the partnership process.

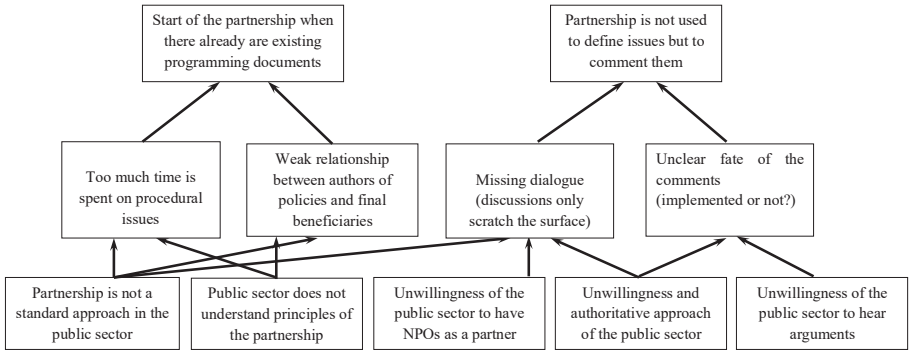

Figure 2: Causes and effects of problems in partnership of the civil society and public sectors in the EU cohesion policy in the Czech Republic: partnership process.
Source: in-depth interviews, own elaboration.

4.4.5 Added Value of Each Partner: Adding to the Mosaic

The majority of the implemented partnerships in the EU cohesion policy in the Czech Republic are still rather formal. There are three reasons for such a situation. First, the heritage of the statist system with a centralized political system (Salamon et al., 2017) lessens the role of the civil society in formulating public policies. Second, a

need to meet the formal requirements of the EC and avoid any mistake in public administration results in a cautious approach to the public administration (opinion of 61.5% NPOs respondents). Third, even the member countries cannot fully apply partnership principle when negotiating with the European Commission. It concerns especially countries willing to access the EU (Grosse, 2010; Kutter & Trappmann, 2010).

This general picture varies according to size and position of a body in the hierarchy of the implementation of the EU-funded operational programmes. Monitoring Committees are especially characteristic with their very formal procedures (Cartwright & Batory, 2012), as they are large bodies meeting only a few times a year. The NPO representatives perceive the value added of each partner contentiously. The issue concerns their opinion about high skills and expertise among the NPO representatives who are not capable of persuading public administration in favour of their opinions. In contrast, they simultaneously appraise increasing openness of the public sector in the programming period 2014-2020.

Responses provide information that major issues appear in the partnership decision-making. Detailed analysis of responses shows that NPO representatives expected to influence the objectives of newly created operational programs, but the partnership process was more about commenting on documents than creating and prioritizing them. Still, they were able to provide the managing authorities with valuable information about local needs. The capacity to implement the partnership successfully depends on the personal approach of people from governing bodies and representatives of NPOs. To invite only relevant partners and avoid redundancy, the managing authorities invited only five NPO representatives to participate in working groups of each programme. Thus, all participating partners were able to provide missing information to the partnership process.

4.4.6 Synergy of Partners: Positive External Value

Fragmentation of the civil society sector results partially from lacking communication system among NPOs. Mutual communication among NPOs would not only raise awareness of the issues solved, but it would also increase the sharing of experiences and values within the whole sector. Such a system existed at the beginning of the Partnership Platform of NPOs 2014+ work with the aim to transform information about the process of operational programmes preparation and updates to NPOs. Each group had its coordinator responsible for sharing the information with the whole platform. It could help to increase absorption capacity of the operational programmes aimed at actual needs in society.

Such a system worked only in 2013, at the beginning of the existence of the Platform. Almost 60% of all interviewees pointed out that the discussion was not properly coordinated and NPOs were promoting their own interests without any

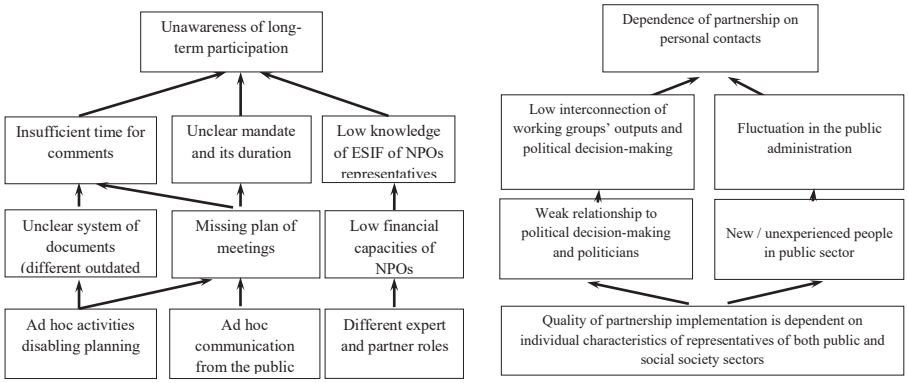

Figure 3: Causes and effects of problems in partnership of the civil society and public sectors in the EU cohesion policy in the Czech Republic: Unawareness and Fluctuation.
Source: in-depth interviews, own elaboration.

attempts to find consensus among NPOs. Sharing of information quickly disappeared when the amount of work and documents increased significantly. Some representatives of NPOs did not communicate even within the same working group. As a result, the participating NPOs were able to forward the information to a limited number of stakeholders only (**Figure 3**). Therefore, the positive external value of the partnership has decreased in this case, where it is uncertain whether or not it was missing entirely.

Another issue that reduces the external value of the partnership concerns timing. The beginning of the partnership principle with existing programming documents did not enable NPOs to interfere with the preparation of programming documents, but only when the first draft operational programs were prepared (**Figure 3**). Furthermore, due to procedural issues, the process was delayed and insufficient time was devoted to expert discussions and discussions with NPOs. In addition, only about half of NPO representatives were aware of the time-consuming process of seeking consensus among partners who have been involved in partner structures only in the recent programming period.

In addition to the lack of information on actual needs, delaying the timing of the intervention has caused barriers to the preparation of programming documents. Delays lead to insufficient time to comment on documents. This could be solved either by involving more employees or by lowering the output quality of the partnership process. Given that the overwhelming majority of NPOs have insufficient staffing capacity (Potluka, Špaček, et al., 2017; Potluka, Spacek, & von Schnurbein, 2017) (reported by 75.0% of all NPO representatives), the only option was to reduce the quality of the inputs into partnership. Not only did the insufficient time capacities of NPOs cause a weak consultation process (58.3% of respondents), the very short time to read and comment on documents was also perceived as the main problem. The special expertise of grass-root NPOs in the partnership is a general issue (Kohler-

Koch, 2009), but the perceived lack of capacity among Czech NPOs is striking. Thus, the value created by participation could be higher if the NPOs had more capacities.

4.4.7 Consensus Decisions

Civil society is perceived to be among the necessary preconditions for democratization. They are brokers of ideas between the general public and public administration (Frič, Goulli, & Vyskočilová, 2004; Kárníková, 2012; Quigley, 1996; Regulska, 1999). Relatively low level of political participation in the Central and Eastern European countries shows that one of the features of democratization in Eastern Europe is the low connection between civil society and citizens on one hand, and political parties on the other (Lewis, 2001). Enyedi and Linek (2008) mentioned that the reason for such a low membership in political parties in Central and Eastern European countries is the fact that parties are more oriented to an electoral logic. They mobilize their electorate and do not mobilize much of their internal sources.

Citizens cannot govern directly in contemporary large-scale societies (Strøm & Müller, 2009: 25). According to Mair (1997: 97) the classic mass parties were a part of civil society as they grew from civil society and movements at the end of the 19th, and beginning of the 20th centuries. The political parties' position has changed as the catch–all parties moved into a position between the civil society and the state.

Gallagher, Laver, and Mair (2006: 225) point out little stabilization of political parties in post-communist Europe. There continues to be a diminishing role of political parties however, in political decision-making in Central Europe as social movements gain influence (Maškarinec & Klimovský, 2016; Šebík, 2016). Still, politicians are the decisive players in politics. Furthermore, almost half of interviewees see the resistance of the Czech public administration against the involvement of other partners in decision-making[25]. To sum up, although the political parties do not have sufficient internal capacities, they do not want to allow participation of other stakeholders in political decision-making.

Representatives of NPOs expected high openness in the partnership process when partnership is a requirement of the European Commission. About 50% of interviewees among NPO representatives perceive that there is no actual interest in the public sector to apply partnership principles. Moreover, more than 60% of them did not see the factual participation in decision-making.

Politics is predominant over policy in working group output implementation. Workgroup outputs are problem-oriented. It is therefore possible to find solutions to specific problems of the operational programmes proposed by the working groups'

25 For long-term reasons see Laboutkova (2009); Potuček (1999).

experts. However, the transition of the output of the working groups into the political decision-making process reveals low actual implementation in real policy.

Another issue is a weak relationship between NPOs to political decision-making and politicians. NPO roles in the society are in agenda setting at the beginning of political decision-making, not in political decision-making as setting final decisions—even in a system which supports their active involvement as is the case for the EU cohesion policy (Kohler-Koch, 2009). Thus, the partnership principle also reflects this issue.

4.5 Conclusion

The practice of partnership process between NPOs and the public sector, as it is implemented in the Czech Republic, shows long-term improvement. Though there are improvements, there are still issues reducing its effects. We conclude that bigger participation of NPOs in policy design would not help increase popular perception of the EU cohesion policy and the EU among the population. There are two arguments for this. First, as the political parties and civil society are not connected any more (Mair, 1997), NPOs do not play an important role in political processes (Potluka, Špaček, et al., 2017). NPOs only have a chance to change policies in cases when they mobilize the masses for political action. In the whole post-communist region, NPOs are capable of developing a transactional capacity that seems to surpass the capacity to mobilize citizens in organized collective action (Petrova & Tarrow, 2007). Second, ineffective communication channels among NPOs results in information not being provided to NPO target groups and the wider public. Thus, for the long-term change of the EU perception, narrowed communication channels are more beneficial than NPOs.

The NPOs are brokers of their target groups' needs, but they suffer from the lack of legitimacy to convince officials to take them seriously in policy-making processes. Thus, even though they have information on policy needs; their contribution to the policy relevance is limited. For the NPOs, it is thus better to stay outside the political process as a sector. If there were individual politicians being recruited as non-profit leaders, they would be able to lobby for the policy solutions suitable for NPOs—since there are still limited numbers of non-profit leaders willing to take an active part in politics and represent NPO values, even at local levels (Potluka & Perez, 2019). Without such political engagement, NPOs would not be capable of improving relevance of implemented policies. In short, **Table 2** summarizes the recent determinants, successes, and failures of Czech NPOs to implement the partnership process.

Table 2: Summary of successes and failures of NPOs in the partnership process.

Strengths • High effort of NPOs with regard to help with to design the EU programmes • Knowledge of needs of specific target groups	**Weaknesses** • Low persuasive capacity of NPOs (lack of data and rigorous analysis) • Fluctuation and loss of skilled people in NPOs • Fragmented civil society sector • Low coordination and communication among NPOs
Opportunities • High willingness of NPOs to participate in programming • Transparent process of NPOs' representatives selection • Partnership process is more open than in previous programming periods	**Threats** • Low NPOs' capacities (personnel, financial, time) • Low acceptance of partnership in public sector

Source: Own elaboration based on Potluka, Špaček, et al. (2017).

We have found a long-term positive development in the partnership principle, which satisfies both governing bodies and NPOs. Still, the implementation of partnership shows suboptimal interaction between the non-profit and public sector. The main obstacles to successful implementation of the partnership principle in the Czech Republic are the following four issues. The first and main problem relates to a huge fragmentation of the civil society sector in the Czech Republic. Fragmentation among NPOs is a natural process, thus it is not surprising that it prevents the creation of priorities and joint actions in this sector and requires more effort and time to achieve consensus. Uncoordinated activities sometimes reflect trends that concern the process, but do not add to improvement of public policies. If NPOs put in place coordination tools (such as a communication system or leaders capable of leading the process), they will achieve better results in the policy-making process.

The second important issue relates to the low capacities of NPOs in the partnership. The NPO representatives usually work at the expense of their own organisations. Sometimes, they work in their spare time and cover the financial costs of meetings from their own resources. Without successful results, such partners simply leave the partnership or stop being active. On the other hand, the partnership will acquire a formal, ineffective form that does not increase the importance of implemented policies. Supporting NPOs from cohesion policy (EC, 2014) would help them with low working and time capacities and could afford full-time experts to provide expertise for the sector as a whole (not to particular NPOs).

Thirdly, the fluctuation of civil society representatives hinders a functional partnership. However, fluctuations also concern public administration due to common changes in governing bodies for political reasons. Rotation in policy-

making is the principle of democracy, but in this case, it also affects administrative staff. Fluctuations lead to the loss of previously established personal contacts, and partnerships not only become unsustainable, but requires reassembling. The problem is the lack of continuous long-term memory in working groups and the sharing of results among partners. This means that the situation does not meet the long-term relationship requirement. As noted above, capacity building would reduce the fluctuation of NPO representatives in MCs and working groups, and ultimately increase the ability of NPOs to operate.

The last question is the timing of the partnership. Late start and lack of time in partnership for prioritizing consultations lead to low quality outputs. It is in line with the three limitations of project management: cost, time and quality. It is simply not possible to achieve a high-quality partnership with a lack of time and financial resources in NPOs. From this perspective, it is up to the governing bodies to start a wider debate with reliable policy partners three years before the EC submission. Furthermore, improvement in the cooperation and a general rise in spirit among the NPOs themselves are of crucial importance. Creation of a working group of NPOs, which dealt with the issue of the EU cohesion policy, resulted in an increased activity and interest by NPOs in the Czech Republic. The ambitions of NPOs were one of the key factors that have led to a greater NPO representatives involvement in the preparation of programmes in the current programming period of 2014-2020.

What lessons can be drawn from the successes and failures of cohesion policy in involving NPOs in the design and implementation of this policy? Providing the opportunity to take part in the process without providing relevant sources does not help. NPOs were not able efficiently add to the cohesion policy design and implementation when they took part too late and with low capacities. The support of the European Commission in this process is essential and must be long-lasting; otherwise it will not continue in countries with centralized public administration. The support must be substantial, especially in relation to the current political development of the relationship of the central governments with civil society in the countries of Central Europe.

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Chapter II: **Cohesion Policy Multidimensional View: Sectors, Country Case Studies & Financial Instruments**

1 Subsidizing Foreign Investments Through EU Funds in the European Peripheries: The Case of the Automotive Sector in East-Central Europe

Vera Šćepanović[26], Gergő Medve-Bálint[27]

Abstract: After many years of being touted as success, the foreign direct investment (FDI)-oriented development model of East-Central Europe (ECE) has recently come under fire. The controversy is closely linked to discussions on the effects of EU integration for the development of poorer Eastern member states. Our paper contributes to these debates by investigating the neglected relationship between FDI and EU funds, where EU funds are used as investment incentives for FDI. The interaction between them is problematic, as these two types of external funds have fundamentally different purposes. Whereas FDI is driven by market logic, the EU funds are supposed to correct market inequalities and failures. However, we argue that, due to a combination of the ECE's structural dependence on foreign capital and design of funding allocation mechanisms, the EU funds may in fact amplify the existing market inequalities. To examine whether the EU funds to the private sector in ECE are market correcting or market amplifying, we analyse allocation of EU funds to the automotive industry in Poland and Romania in the 2007-13 programming period. We find some evidence for the market-correcting effects, in that foreign multinationals receive a smaller portion of these funds, relative to their share of employment and output of the sector, and that there is no bias towards foreign companies once we control for other firm characteristics. However, we also find that due to the peculiarities of the industry, where ownership, size, and productivity strongly overlap, a very large portion of EU funds —one half to three quarters—is nevertheless spent on subsidies to multinationals. Moreover, the overwhelming majority of these funds support routine capital investments instead of promoting innovative projects. We thus confirm the existence of a perverse mechanism in the distribution of EU funds in ECE, whereby the least developed regions of Europe spend the EU's development monies to support some of the richest firms in the world. We conclude that using EU funds as investment incentives to foreign enterprises is wasteful and may reinforce the negative developmental consequences of the dependent market economies.

26 Institute for History, Leiden University. Correspondence: v.scepanovic@hum.leidenuniv.nl
27 Centre for Social Sciences, Hungarian Academy of Sciences, Corvinus University of Budapest, Hungary. Correspondence: medve-balint.gergo@tk.mta.hu

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1.1 Introduction

The debate over East-Central Europe's (ECE) "dependent development" is in full swing. That most of the region's export and much of its output rely on foreign owned-firms has been well known for over a decade, but has only recently become a matter of heated controversy. This is somewhat surprising given that, until well into the 2000s, foreign direct investment (FDI) had been considered the silver bullet for all of the region's development problems. FDI was supposed to be the cheapest source of capital and know-how, and the fastest way to raise a country's productivity and attain export competitiveness. Across the region, governments of all stripes competed fiercely for external capital, courting foreign firms with attractive incentive packages, "competitive" taxes and "most flexible labour codes in Europe" (Drahokoupil 2008; Šćepanović 2013; 2015). In the years before the 2004 enlargement, the EU itself actively promoted this approach to development (Medve-Bálint 2014).

This is not to say that the downsides have been completely invisible. Academic literature is rife with warnings about the heavy reliance on FDI, potentially leading to limited upgrading prospects, the lack of spill-overs to domestic firms, the persistent wage gap with Western Europe, and the mounting fiscal burden of the region's "dependent market economies" (Nölke & Vliegenthart, 2009; Bohle & Greskovits, 2012; Pavlínek & Žížalová, 2016). Yet, it was not until the aftermath of the global financial crisis that these concerns took political centre stage. Right-wing governments have led the way, complaining about "colonization" by Western European firms, but even more moderate politicians have voiced dissatisfaction with the multinationals' reluctance to share their profits more widely and reduce the wage gap between the new and old EU member states (Bloomberg, 2017; Morawiecki, 2017).

The debate over the economic consequences of EU integration bloomed again in early 2018, in response to a blog post published by the French star economist, Thomas Piketty. In it, he compares profit outflows from East-Central Europe to inflows from EU funds, and concludes that the ECE governments may be right to challenge the narrative of benevolent integration, as the balance of these two external sources of finance actually show that ECE economies have transferred more value to Western Europe than they received (Piketty, 2018). This is certainly an oversimplification—the comparison leaves out all other benefits that have accrued to the region from foreign investment, and offers little justification for the conceptual leap that compares public transfers to private profits (see e.g. Darvas 2018). Even so, Piketty's numbers do raise some important questions about the relationship between FDI and EU funds—questions that allow us to depart from the political dispute and reengage in an honest and constructive debate on the benefits and costs of economic integration for East-Central Europe.

In theory, FDI and EU funds have very little in common. FDI consists of private capital inflows driven by business decisions that follow market advantage and go wherever they perceive a profit opportunity. The EU funds, meanwhile, are public

transfers from the EU's cohesion policy intended to benefit the least developed member states by generating projects in areas neglected by private investors. Yet, in practice they are linked through the EU's investment incentive framework, which, as we demonstrate in this study, allows the EU funds in ECE to be granted to the multinationals. In this way, the funds intended for developing the poorest areas of the EU are instead used to augment the returns on FDI. This practice is problematic for a variety of reasons. First, there is no evidence that these subsidies are necessary to secure investments. Incentives are usually justified as a way to compensate investors for the perceived disadvantages of a location. Yet, several studies have shown that they are rarely effective when real competitive disadvantages are at play (Blomström & Kokko, 2003; Oman, 2000). In fact, the value of incentives balloons precisely when the competition for investment takes place between most similar locations—in other words, where the relative disadvantages are the smallest, and the incentives least necessary (Klemm & Van Parys, 2012; Morisset & Pirnia, 2000; Thomas, 2011), which is exactly the case across ECE. The incentives are thus not an expression of economic necessity, but of the bargaining power of the multinationals: in other words, rents (Bohle, 2009; Medve-Bálint, 2015). Second, far from being simply wasteful, such subsidies also represent a significant fiscal and opportunity-cost to the host countries, absorbing resources that could be more effectively used elsewhere.

This is all the more obvious in the case of the EU funds, whose purpose would precisely be to compensate for lack of private investment either in less developed regions or in activities such as research, innovation, and environment protection. However, if they simply amplify the profitability of those investments that would have taken place anyway, instead of driving investors to areas and activities where they would not otherwise go, then the EU funds will, contrary to their original purpose, contribute to rising territorial disparities and inequality between foreign and domestic firms. This effect is exactly the opposite of what EU policy makers intended: the poorest countries and regions of the EU may end up paying for investments that would have happened anyway, and instead of levelling the playing field for the weakest players, EU funds are channelled into the pockets of some of the continents' wealthiest firms.

If the use of EU funds as investment incentives is both wasteful and counterproductive, then why does it occur? We argue that the combination of ECE's structural dependence on foreign companies and the regulatory flexibility of the European competition policy allows for this outcome. We demonstrate the mechanism both conceptually and empirically. First, we show how the European regulatory conditions for offering state aid as investment incentives enable ECE-governments to grant subsidies to large multinational firms, and how EU funds may become part of these incentives. Next, by tracing the allocation of EU funds to the automotive industry in two ECE-countries—Poland and Romania—we examine the extent to which EU funds support investments of multinational firms, and whether those grants incentivize innovative or routine investments. In doing so, we also contribute to the larger debate on how EU policies affect development in its peripheries. As

we argued elsewhere (Medve-Bálint & Šćepanović 2019), the EU's competition and cohesion policy are also among the most powerful tools that the dependent market economies have at their disposal to overcome the semi-peripheral position in the European and global economy. Nevertheless, while this transnational industrial policy has the potential to bring considerable developmental benefits, there are also important limitations. In this chapter we focus on these limitations, and highlight ways in which the policy should be adjusted to truly serve its purpose.

While subsidies to FDI in ECE have often been subject to controversy over the years, both in the region itself and in the EU, there has been surprisingly little research into the extent to which EU funds have become part of this incentive system. In this research, we offer an exploratory analysis of this problem, by highlighting how Poland and Romania distribute EU funds to private firms in the automotive sector. We seek to answer the following questions: (1) to what extent are EU funds distributed to foreign firms and (2) to what extent are these funds used to stimulate new investment, as opposed to providing routine subsidies to investments that would have happened even in the absence of incentives?

Our analysis builds on a unique dataset compiled by cross-referencing information on the distribution of EU funds in the 2007-2013 programming period to private companies in Poland and Romania, with information on company characteristics such as size, ownership, and market performance. As this is an exploratory analysis, we limit our dataset to one industry, the automotive, which is a leading sector in both countries, and one in which pressure to provide incentives is large, due to its oligopolistic structure and fierce competition between different production locations (Kolesár, 2006; Thomas, 2011). It is, however, also an industry in which foreign companies are dominant and where domestic firms have been struggling to break in to even the lower tiers of the value chains (Pavlínek & Janák, 2007; Pavlínek & Žížalová, 2016; Šćepanović, 2013), which is why one would expect the governments to use the EU funds' in-built preference for small and medium companies to support domestic firms. The two country cases thus also help to see how the balance between the promotion of domestic and foreign firms is struck in different domestic contexts.

The rest of this chapter is organized as follows: Section 1 reviews the EU regulations on the use of EU funds to support private investment in order to gauge theoretically the extent to which these can be used as means to attract FDI. The first part of Section 2 looks into the distribution of EU funds to private companies in Poland and Romania, and evaluates the effect of ownership on the distribution of funding. The quantitative analysis is then complemented in the second part of Section 2 by qualitative information on the projects that received funding. The final section details our conclusions.

1.2 The EU's Approach to Subsidies: Market-Preserving, Market-Correcting, or Market-Amplifying?

We have argued above that the use of public funds to attract mobile multinational firms has significant economic downsides. We should also stress that the EU is well aware of these problems and has, over the years, built a system of regulations to minimize them. The cornerstone of this framework is the EU's state-aid regime, one of the key pillars of the common competition policy. The main purpose of the policy is to preserve the integrity of the single market, by prohibiting any state aid that may distort intra-EU competition by "favouring certain undertakings or the production of certain goods" (Article 107 of the Treaty on the Functioning of the European Union)[28]. The same article, however, relaxes this market-preserving logic by introducing a number of caveats. The aid "may be considered to be compatible with the single market" if it is given to "promote economic development" in backward regions, or those with high unemployment; promote "projects of common European interest"; or "remedy a serious disturbance in the economy of a Member State"[29]—in other words, in order to correct the market's failure to ensure sufficient investment in certain activities or regions.

The phrasing of Article 107 gives the Commission significant discretion to decide on how to strike the balance between the two principles of state aid. Starting in the late 1980s, the Commission had assumed an activist attitude, interpreting the meaning of "state aid" very broadly (Wishlade, 2015a), and applying it with zeal. Until 1998 for instance, the member states were expected to clear all instances of state aid with DG Competition. This was partly driven by an ideological opposition to industrial policy, and partly by the types of state aid that became most prominent in the wake of the two oil crises and which the Commission considered particularly distortionary: aid to uncompetitive sectors, or rescue and restructuring aid to the "national champions." Since the late 1990s, the idea that the states are responsible for promoting economic growth has returned, at least as it concerns "horizontal" forms of aid, such as those granted in accordance with general criteria, instead of targeting specific sectors or firms. The obligation to notify all individual instances of aid has been replaced by the so-called Block Exemption Regulations (BER) and Regional Aid Guidelines (RAG). These schemes must be vetted and approved in advance by the Commission, and the Commission reserves the right to periodically review their application, but as long as they fall within these schemes, individual cases need no longer be notified[30].

28 Article 107(1) of the TFEU replaced the substantially identical Article 87 of the EC Treaty.

29 Article 107(3) of the TFEU.

30 Large investment projects receiving aid are still subject to notification. The thresholds, above which an investment is considered large, are set at the regional level (NUTS 3) by the Commission.

The market-correcting logic of these schemes is reflected in the Commission's efforts to encourage investments that are considered "additive"—i.e. those unlikely to take place without public support: investment by small and medium enterprises (SMEs), in research and innovation, training, and in environmentally-friendly technologies (Blauberger, 2009). By contrast, aid to "traditional" investments—i.e. investment in buildings and equipment, especially by large firms—has been increasingly subjected to tighter conditions[31]. Finally, to prevent opportunistic behaviour by companies, recipients of state aid must promise to retain operation for at least 5 years or repay the aid; and they may not receive aid for a project if they had recently closed a similar operation in another EU country (European Commission, 2013).

In spite of its soft market-correcting element applied to less developed member states, the EU's state aid regime relies primarily on the market-preserving logic of the competition policy, which seeks to preserve the integrity of the market by discouraging public support to private firms. The EU funds, on the contrary, are predominantly driven by a market-correcting logic, which attempts to prevent growing disparities between countries and regions by compensating for the failure of private funding in reaching backward areas of the EU. This is also why the EU funding for private firms emphatically favours support to small and medium enterprises (SMEs), which—unlike most large firms—have a more difficult time accessing private capital markets. The market-correcting principles and safeguards applied by the EU funds are broadly similar to those stipulated in the state aid regulations. For example, majority of the funds are only available in the least developed areas (those with GDP per capita under 75% of EU average) and are thus expressly used to promote economic development and address market-induced inequality. However, the funds are also meant to promote horizontal and additive investment objectives through special funding lines dedicated to SMEs, R&D, innovation, and environment. Most of these funding lines exclude large firms as beneficiaries. To prevent circumvention of this rule by multinationals, capital connections are inspected to determine the size of the firm: its global size (i.e. number of employees/turnover worldwide) is taken into account and not merely its size in the country of application.

All things considered, the market-preserving approach, which ensures that uncompetitive firms and sectors are not artificially propped up by public funds, and the market-correcting approach, which addresses low supply of private investment

31 The 2002 Multi-sectoral framework on regional aid for large investment projects introduced a formula that progressively reduces the applicable aid ceilings for all investments exceeding EUR 50 million (European Commission 2002). The subsequent Guidelines on national regional aid for 2007-2013 also introduced the requirement that the state must be able to demonstrate "incentive effect" of aid measure (i.e. that aid would not otherwise take place) as well as "proportionality" of aid and the lack of "negative effect" on EU's economy (European Commission, 2006).

in certain areas and activities, include enough safeguards to successfully contain the negative effects of subsidy competition among the EU member states. Nevertheless, there are still a few reasons why, in the Eastern member states, the EU may not be fully effective at minimizing the misuse of investment incentives, including through its own funds.

First, the state aid regime allows poorer member states and regions to grant higher subsidies to private firms relative to the size of the investment, even when specific features of the location such as labour costs or agglomeration effects would in themselves guarantee profitability[32]. Nearly all regions in ECE fall below the EU deprivation threshold, which means that they are allowed to offer *both* national state aid and EU funds to prospective investors. Second, large foreign investors have become accustomed to receive incentives, and do not shy away from extracting them by orchestrating "beauty contests" between different shortlisted locations. At the same time, the ECE's structural dependence on FDI has ensured that their governments try to work around the system's limitations in order to offer as much aid as possible. Third, although in principle the Commission favours SMEs and additive investments as targets of EU funds, in practice the process of funding allocation has created pressures on the member states to absorb the EU funds as quickly and efficiently as possible. In absence of adequate domestic institutional structures, contracting the funds to large companies can serve as a solution to the absorption problem because it is easier to manage a small number of big contracts with large foreign firms than to administer a high number of small grants signed with SMEs. This is reflected in the fact that the ECE governments had insisted that traditional investments, including those by large firms, remain eligible for the EU funds.[33] Fourth, the competitive allocation of EU funds—though it ensures efficiency of spending and increases overall fund "absorption capacity"—also implies that funds are awarded to the already most competitive and best prepared firms. In the context of the ECE dependent market economies, where public policy is already geared towards attracting mobile transnational capital, this means that public subsidies will be allocated according to the market power of the applicant, and diverted from domestic SMEs to foreign multinationals. This effect is likely to arise even without intentional manipulation on the governments' part, as the internal capacities of large firms allow them to submit better fund applications than most of the domestic SMEs. Consequently, with these mechanisms at play, the main market-correcting instrument of EU-integration may—

32 In the years prior to the ECE's accession to the EU, the companies were actually asked to calculate the cost difference between investing in the "disadvantaged" areas of EU-15 and investing in the candidate countries in order to obtain support in the former. In all of these cases, the calculations showed a significant cost *advantage* to investing in the ECE (Šćepanović, 2013).

33 We thank an anonymous Polish state-aid expert for mentioning this aspect (Interview in Warsaw, 30 November 2017).

ironically—reinforce the negative outcomes of the dependent developmental model. In this way, EU funding may become its own parody: a *market-amplifying* instrument.

To be sure, both the state aid regulations and the EU funds have been instrumental in helping ECEs to manage their dependence on external capital. The legal restrictions on subsidies have allowed them to resist more onerous demands by the multinationals, and enforce some rules over the kinds of projects that may bid for support. The availability of the EU funding has created additional opportunities for these states to reinvent their industrial policies (Medve-Bálint & Šćepanović, 2019). At the very least, the use of EU funds for investment-promotion purposes may relieve the pressure on the public budgets and alleviate distributional tensions, allowing diversification of support to different types of firms and projects. At best, it may help the Eastern member states nudge the multinational companies towards new investments that contribute to industrial upgrading instead of simply exploiting their low-cost advantage.

Whether or not the EU funds end up being a market-correcting tool, drawing investments to new actors and activities, or a market-amplifying vehicle that only lowers investment costs for the most powerful firms, depends in the end on how they are used. How much of the EU funding actually goes to the multinational firms? Does it mainly support routine investments that would have likely happened anyway, or does it facilitate investments in new directions, such as research and development (R&D)? Is the current extent of policy coordination sufficient, or can the EU do more to close the grey areas that permit its poorest regions to spend the most on incentives of dubious value? Surprisingly enough, there is very little empirical research to answer these questions one way or another. Other authors have acknowledged the overlap and the possible contradictions between the EU state-aid and regional-development policies (e.g. Thielemann, 2002; Wishlade, 2008), but the developmental aspects of the relationship between state-aid control and cohesion policy have just begun to attract scholarly interest (Streb, 2013). In the next section, we use data from two Eastern member states, Poland and Romania, to break new empirical ground on this front and investigate to what degree and in which ways the EU funds have been used for investment promotion purposes.

1.3 EU Funds as a Tool of Investment Promotion: Evidence from Poland and Romania

To understand how the EU funds are used as a form of subsidy to FDI, in this section we examine the allocation of funding to private firms in the automotive industry in Poland and Romania. The industry has long been one of the primary beneficiaries of public funding, for a number of reasons. The first is its relative size. Automotive production takes place in large industrial agglomerations that bring significant benefits in terms of employment and output. In Poland and Romania, the automotive

industry broadly understood (including all the primary component providers) accounts for 10% and 17% of industrial value added—equivalent to respectively 3% and 5% of total private sector GDP[34]. The industry's contribution to export is even more remarkable: 15% of all commodity exports in Poland and 20% in Romania are directly related to the automotive sector[35]. Even more importantly, the industry is a centrepiece of a complex production network. With supply chains stretching far into many other industrial branches, it holds the promise of driving forward the entire manufacturing sector (Lee & Cason, 1994).

The second reason is the industry's concentration. A few global manufacturers control the majority of production worldwide, and thus command enormous bargaining power. Nowhere has this been more evident than in the post-socialist Eastern and Central Europe, where regional governments did everything in their power to attract the automotive giants in order to save their industries after the collapse of socialism. They assumed most of the restructuring costs of the former national champions so that the new owners could take over streamlined, debt-free companies, usually for symbolic amounts (Balcet & Enrietti, 1998; Dörr & Kessel, 2002). They offered tax breaks, direct grants, discounted land purchase, dedicated infrastructural investments to connect the factories to the Western transportation network, and, as long as the trade liberalization schedule with the EU permitted it, they also maintained a modicum of import restrictions in order to reward incoming investors with privileged access to the local market (Antalóczy & Sass, 2001; Cass, 2007; Domański, 2005; Drahokoupil, 2008). Some went so far as to stand up to the EU in defending the concessions granted to the automotive investors. In the run-up to the accession, the Polish state frequently clashed with the Commission over aid to the Korean carmaker Daewoo, the continuing protection of the domestic market in the guise of "environmental" ban on imports of used cars from Western Europe, and generous tax holidays in the Special Economic Zones (Van Aken, 2007). To this day, the sector remains among the "preferred sectors" on the lists of governments' investment promotion agencies. In Romania, the automotive absorbed nearly 60% of about EUR 620 million spent on investment incentives in the period between 2007-2016[36]. In Poland, more than one third of state-aid funds allocated to large firms under regional-aid schemes in the same period went to the automotive industry—around EUR 580 million in total[37].

34 Authors' calculations based on Eurostat data.

35 Authors' calculations based on COMTRADE.

36 Authors' calculations based on data from the Romanian Ministry of Finance. Includes aid allocated under assistance schemes GD 1680/2008; GD 753/2008; GD 807/2014; GD 332/2014; GD 1165/2007.

37 Authors' calculations based on data reported by the EU state aid register „Transparency system for regional aid for large investment projects".

All of this makes the automotive industry the test case for the EU's effectiveness in curbing the excessive use of public funds in the competition for investment. Since enlargement, the ECE's incentive schemes has been brought into line with EU regulations, but in view of their past record and the industry's undiminished power, there are good reasons to expect the governments to continue finding ways to grant automotive multinationals the subsidies they had come to expect. There are, however, even better reasons to ensure that as little public money as possible is spent on incentives to multinationals, least of all from the EU funds. First, as noted in the introduction, there is no evidence that subsidies are economically necessary to attract investment to the region, and most investor surveys already rank ECE as the most attractive area in Europe for automotive production (Deloitte, 2016). Second, although the steady flow of investments by the lead automotive firms has indeed boosted the manufacturing capabilities of the ECE states, it has done so mostly by transplanting the existing supplier networks to these countries, with very little involvement of local companies. With few exceptions, the latter had either been acquired by foreign competitors, or pushed out of the sector altogether, with potentially detrimental consequences for long-term development of industrial capabilities in the region (Pavlínek, 2012; Pavlínek & Janák, 2007; Šćepanović, 2013). These processes are not peculiar to ECE: product integration and follow-up sourcing have led to growing industry concentration and marginalization of local producers in many parts of the world (Barnes & Kaplinsky, 2000; Humphrey & Memedovic, 2003). Yet, in the ECE, their marginalization has been further exacerbated by the fact that most public efforts at industry target foreign companies that already have better access to both capital and technology.

In this section, we examine whether the EU funds are used to broaden the FDI-promotion arsenal or, on the contrary, create opportunities for other firms to join the industry and improve their chances in market competition. To do so, we compiled a dataset that combines information on the distribution of EU funds under the 2007-2013 financing framework, with information on company characteristics, including ownership, size, and performance. The dataset includes information from governments' websites on EU funds, commercial databases EMIS and D&B, and automotive industry organisations in the two countries. As the automotive supplier base reaches into many different industries, in order to include all the relevant firms, we used information on companies' primary activities as reported in the EMIS database and cross-checked it with the databases maintained by the industry associations (PIM and Automotivesuppliers.pl in Poland, and ACAROM in Romania). This gave us a list of 871 firms in Poland, and 523 in Romania, active in the automotive sector, with complete market and financial profiles. To this, we added information on ownership from D&B database, and classified as "foreign" those firms whose ultimate owner was registered in another country. As the vast majority of foreign-owned firms in our dataset are large companies with more than 1000 employees globally, we use "foreign" and "multinational" interchangeably in the paper. Finally, we matched the resulting dataset with that containing information on the EU funds in order to identify firms that received support.

We then performed both quantitative and qualitative analyses on the dataset, complementing it with information from company records, media, and government websites, to answer the following questions: Which characteristics make companies most likely to benefit from the EU funds? And what kinds of projects are most likely to be funded? The following two sub-sections tackle each of these questions in detail.

1.3.1 EU Funds for the Automotive Industry: Who benefits?

Table 1 summarizes the key characteristics and structure of automotive industries in Poland and Romania based on the information contained in our dataset. As expected, while the majority of firms in both countries are domestically owned, foreign enterprises overwhelmingly dominate the sector. They are responsible for more than 80% of employment, 85% of revenues in the Polish automotive industry, and 89% of employment and 94% of revenues in Romania. Their share of EU funding is, however, smaller than their weight in the industry employment and output, though the amount of funding allocated to them is still sizeable: roughly half in Romania and as much as three quarters in Poland.

Table 1: Weight of foreign-owned firms in industry size and funding allocation.

	Number of firms	Employment (000s)	Operating revenue (EUR mn)	No. firms receiving EU funding	Total EU funding (EUR mn)
Poland	871	257.2	46158.3	198	298.3
of which % foreign-owned	*40.6*	*80.7*	*85.1*	*29.9*	*76*
Romania	523	230	21059.8	83	144.5
of which % foreign-owned	*43.8*	*89*	*94.1*	*43.4*	*46.7*

Source: Authors' calculations based on the automotive dataset, drawing on EMIS, DB, and government databases on EU funding allocation. Data on revenues and employment refer to year 2016.

The absolute figures also suggest that compared to the national state-aid allocations, the automotive industry does not feature prominently among the beneficiaries of EU funds. In the 2007-13 programming period, the total budget of EU funds amounted to EUR 67.3 billion and 19.7 billion in Poland and Romania, respectively (EC, 2007). By the end of the accounting period (end of 2015), Poland had contracted 95% of its budget while Romania managed to call in only 71%. According to the official records

published by the monitoring agencies, of the total national budget, EUR 19.3 billion was distributed to private firms in Poland, compared to just 2.9 billion in Romania. Of this, EUR 298 million (1.5% of private sector funding) in Poland and EUR 144.5 million (5%) in Romania was allocated to automotive firms.

This would suggest that the EU is indeed successful at restricting access of large multinationals to EU funds, privileging a different population of firms. To confirm this, we first ran a logistic regression model and then built a two-step model (Heckman, 1979) to estimate the effects of firm characteristics such as ownership, size, productivity, and firm age, on the probability of receiving funding. In the first step, we performed a logistic regression, estimating the likelihood of obtaining funds, while the second one extends the regression by estimating the size of individual grants (measured as total EU-funding per employee). Firm size was proxied by the number of employees. Firm productivity was measured as operating revenue per employee; age was derived from the company's year of incorporation (when operation in Poland or Romania began); and ownership was identified by the country of the ultimate owner. To check for possible differences in the behaviour of the two countries, in some estimations we introduced an interaction term between the country dummy and the binary indicator for foreign companies. To avoid biased estimates, due to the cross-country differences in average firm size, productivity and size of funds, we divided the firms' operating revenue per employee, and total funds per employee by the corresponding country means. Finally, because the continuous variables showed a strong positive skew, we applied log transformation in order to normalize their distribution.[38]

We summarized the results of the models in **Table 2**. Models 1 and 2 are the logistic regressions while models 3 and 4 are the two-step models.[39] Model 1 reveals that all else being equal, greater firm size and firm productivity increase the likelihood of being funded, while foreign ownership decreases it. The age of the firm does not show any significant relationship with the dependent variable. The country dummy is not significant which suggests that holding everything else constant, there is no difference in the likelihood of a Polish and a Romanian automotive firm gaining access to EU support. Model 2 contains the same explanatory variables but also adds the interaction term to the equation. The interaction between the country dummy and foreign ownership is not significant and the coefficient for the country dummy does not pass the 95% confidence level either. This is consistent with the results of the previous model.

The first stage of the selection models estimates the likelihood of a firm receiving EU funds with a similar logistic model as applied above, and yields virtually identical results. In the second stage, OLS estimation is performed where the amount of funds

38 For the correlation matrix of the explanatory variables, please consult Table A1 in the Appendix

39 As a robustness check, we ran all the models with an alternative indicator of size (total operating revenue). The results remained identical to those reported in Table 2.

per employee becomes the dependent variable to reveal the relationship between the size of funds and the explanatory factors. In other words, the models estimate the size of EU grants that a firm gets once it is being funded. The results show that—all else held constant—larger firms contract fewer funds per employee, while an increase in productivity is associated with higher grants per worker. It implies that more efficient, more productive firms are able to secure bigger contracts relative to their size. Furthermore, the significant country dummy suggests that enterprises in Poland obtain on average lower EU funding per employee than firms in Romania. This is consistent with the descriptive statistics (**Table 1**) and reveals that funds distributed to the automotive sector are more concentrated in Romania than in Poland. Finally, the significant negative interaction term between the country dummy and firm ownership reveals that funding per employee for foreign businesses does not differ between the two countries: while the Romanian domestic firms—on average—receive significantly higher grants per worker than the domestically owned companies in Poland, the difference disappears in the case of the foreign-owned enterprises (**Figure 1**) if we hold all other variables constant. To put it differently, funds are more concentrated on the domestic firms in Romania, which also implies that funding in the automotive sector is less distributive there than in Poland, but the average grants per employee to foreign businesses is similar in the two countries, all else being equal.

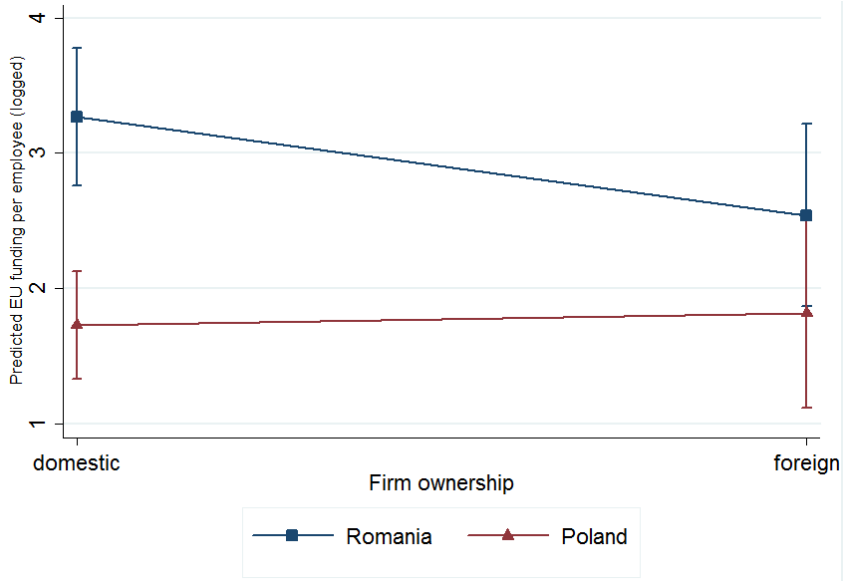

Figure 1: Predicted EU funding per employee with firm ownership by country (Model 4).
Source: Own elaboration.

The conclusions of our regression models are somewhat conflicting. On the one hand, they show that foreign automotive firms do not enjoy privileged access to EU funding. On the contrary, if two firms are of the same size, age, and productivity, then domestic firms are on average more likely to receive funds. On the other hand, the data reveal a clear preference for larger firms, the vast majority of which are foreign. Even though this trend is somewhat attenuated by the apparent compression of funding amounts—with very large firms receiving less per employee than the small firms—there is also evidence that the more competitive (i.e. more productive firms) are also better at obtaining larger grants.

This is in line with the reasoning presented in Section 2, in which we argued that the EU funds may end up being channelled to investment promotion purposes, not because of an explicit bias towards multinationals, but because of the way in which they are distributed. In other words, the problem is not that multinationals are outright privileged—if anything, programme objectives work to prevent their access to the funds—but that they may end up being primary beneficiaries because of the interaction of funding mechanisms and market structure. In an industry in which large multinational firms control the majority of production, so long as they remain eligible for public support *and* this support is provided on competitive terms, the same characteristics that ensure their market dominance will also conspire to secure them a large proportion of funding. Thus, despite the fact that no preference towards foreign firms can be detected once appropriate controls are introduced, at the macro level, the coincidence of these factors—size, productivity, and ownership—ensure that they receive a very large proportion of EU funds.

The fact that substantial funding goes to multinationals is not yet evidence that programmatic objectives of EU funds to private firms—development of capacities in areas where the private funding is not readily forthcoming—have been overridden by market power. Support to SMEs is one such area; the others are promotion of R&D activity, investment in human resources, and diffusion of "green" technologies to minimize the environmental impact of industry. In the following section, we examine the extent to which automotive industry projects, which successfully bid for EU funding, fall in line with these objectives.

1.3.2 What kinds of projects are being financed?

EU funds are allocated in accordance with the programming documents that must be prepared by each member state ahead of the start of the financing period. The national documents are aligned with the EU's own economic goals, and the national authorities work closely with the European Commission to translate the European objectives into operational programmes (OP) that best suit the country's needs. These typically comprise regional programmes, dedicated to development of specific regions, and sectoral programmes, targeting horizontal objectives such as growth,

Table 2: Summary statistics of the logistic and the two-step regression models.

	Logistic models				**Two-step selection models**			
	Model 1		**Model 2**		**Model 3**		**Model 4**	
					Second stage: EU funds/ employee		*Second stage: EU funds/employee*	
	B	**SE**	**B**	**SE**	**B**	**SE**	**B**	**SE**
Constant	.18	.28	.02	.31	2.33	.39	2.76	.42
Fixed effects								
Number of employees	.52***	.05	.51***	.05	-.44***	.06	-.44***	.06
Op. revenue/employee	.29***	.06	.29***	.06	.33***	.10	.34***	.11
Age of firm	.00	.01	-.01	.01	.01	.02	.01	.01
Foreign-owned	-1.81***	.21	-1.56***	.32	-.17	.24	-.73***	.31
Poland	.21	.15	.36*	.20	-1.16***	.22	-1.54***	.25
Interaction effects								
Poland * foreign firm			-.35	.33			.81**	.41
					First stage: selection of firms		*First stage: selection of firms*	
Constant					.04	.11	.04	.11
Number of employees					.29***	.03	.29***	.03
Op. revenue/employee					.16***	.04	.16***	.04
Foreign-owned					-.98***	.11	-.98***	.11
Poland					.12	.09	.12	.09
Mills lambda					.21*	.13	.23*	.14
rho					.15*	.10	.15*	.08
sigma					1.50***	.08	1.49***	.08
N (uncensored)	1346		1346		1345 (279)		1345 (279)	
-2Log-likelihood	-1189.1		-1187.9		-2204.8		-2200.9	
Wald Chi-square	133.1***		136.9***		107.8***		133.95***	
Pseudo R-squared	.14		.14					

Unstandardized coefficients, robust standard errors.

* p < .1 ** p < .05 *** p < .01

Source: Own elaboration

competitiveness, or environment. Each operational programme is then subdivided into Priority Axes (PA), each with their own budget line, and within these into specific measures and areas of interest. Private firms do not have equal access to all OPs, at least not as primary beneficiaries. Most funding under regional OPs (ROP), for instance, go to public authorities for investments in infrastructure, and the financing of private sector activities is strictly limited to SMEs. Under other OPs, access may be limited to firms in certain sectors such as energy, water, or transport.

In the 2007-2013 programming period, the overwhelming portion of EU funding to the automotive industry in Poland came from OP Innovative Economy (86%) and, to a lesser extent, from the 16 regional OPs and the OP for the development of Eastern Poland (12.2%) and OP Human Capital (2%). In Romania, nearly all funding (97%) came from OP Increase of Economic Competitiveness, followed by OP Human Capital (3%) (Table 3).

Table 3: Distribution of EU funds to the automotive industry by Operational Programme.

Operational Programme	**Total funding to private firms (mn EUR)[a]**	**Automotive industry[b] (mn EUR)**	*% from all funding to automotive*
Poland			
OP Regional	3055.7	28.3	9.5%
OP Infrastructure and Environment	10002.7	0	
OP Innovative Economy	4550.9	255.8	85.8%
OP Human Capital	1524.2	5.9	2%
OP Development of Eastern Poland	178.1	8.2	2.7%
Total	**19311.6**	**298.2**	
Romania			
OP Regional	553.8	0.6	0.4%
Op Environment	91.2	0	
OP Economic competitiveness	1676	139.6	96.5%
OP Human capital	405.7	4.4	3.1
OP Transport	157.3	0	
Total	**2884**	**144.6**	

a Total funds contracted by end of 2016

b As defined in our database

Source: Authors' calculations based on the automotive dataset and governments' data on EU funds.

The structure of Poland's OP Innovative Economy and Romania's OP Increase of Economic Competitiveness differ according to the needs of the two countries, but a few similarities stand out. Both programmes emphasise the need to improve the countries' competitiveness by investing in innovation, and both have priority axes dedicated specifically to funding collaborative and individual projects by private enterprises in research, development, and innovation. Both also have funding lines for projects that consist of investment in fixed assets, such as buildings and equipment, as well as intangible assets such as services, intellectual property, and the like. In principle, large firms should not be allowed to bid for grants that support purchase of capital equipment, as these are essential for the firm's core operations and should therefore easily be funded in the private markets. However, both Poland and Romania resolutely fought the Commission's attempts to exclude large firms from these funding opportunities, citing the overall backwardness of the countries' capital stock and the need for extra support to bring the overall technological profile of the industry closer to the European levels (Government of Romania, 2007; Ministry of Regional Development, 2007). In the final compromise, these budget lines remained open to the large firms, but with a number of caveats.

In Romania, funding for capital equipment purchase is tucked under OP IEC Priority Axis 1 - "An innovative and eco-efficient productive system", but only 20% of the allocations under it may be distributed to large firms. By contrast, no such restrictions apply to Priority Axis 2 – "Research, Technological Development and Innovation for Competitiveness", which funds R&D-related activities (Government of Romania, Ministry of Economy and Finance, 2007). In Poland, about 70% of all direct support to OP Innovative Economy is similarly earmarked for support to SMEs. Large firms can access funding for capital investments under Priority Axis "Investments in innovative undertakings", measure 4.5 ("Support for investments of high importance to the economy"), under stipulation that priority will be given to investments "connected with start and development of R&D activities in enterprises" (Ministry of Regional Development, 2009).

In view of all these efforts to direct funding towards smaller firms and non-routine activities, it is quite surprising that over 80% of all sectoral funding to automotive industry in both countries went to projects involving purchase of capital equipment and services, compared to just 8% for R&D-related projects in Poland and as little as 3% in Romania (**Table 4**). Even more disappointing is the fact that the majority of such funding was claimed by multinational companies. As noted above, to the extent that the programme documents allow for EU support to companies' purchase of basic operating assets—factory halls, machinery, licences—they should do so only where private financing is unavailable, or prohibitively costly. This is often the case with SMEs, which find it harder to obtain loans at favourable terms, or with local companies operating with especially out-dated equipment and facing very high costs of replacing their capital stock. It is emphatically not the case with the multinationals, which almost by definition operate at the technological edge and have premium access to

private financing. And yet, these firms were not only more likely to apply for funds in order to finance investment in basic equipment, but were even less likely than other firms to use EU funding for R&D-related projects or for investment in human capital development (**Figure 2**).

Table 4: EU funds to the automotive industry by type of project, excluding funding from ROPs.

	Poland		**Romania**	
	EUR mn	*% total*	**EUR mn**	*% total*
Purchase of capital equipment and other assets[a]	210.6	**80.5**	115.7	**81**
R&D projects	21	8	4.3	3
Human capital	5.8	2.2	4.3	3
Other[b]	24.2	9.3	18.5	13
Total	**261.6**		**142.8**	

a "Purchase of capital equipment" includes all projects funded under OP 3, PA 1, measure 3.2.1.1. in Romania, and projects funded under OP 3, PA 4, measures 4.4 and 4.5 in Poland. "R&D projects" includes funding accorded under OP 3, PA 2 in Romania and OP3, PA 1 and PA 4 measure 4.1 in Poland. "Human capital" refers to funding allocated under OP 4 - Human Capital, in both countries.

b "Other" includes funding for increasing energy efficiency of buildings, introduction of IT systems, assistance with registration of intellectual property and internationalization (attending international fairs etc.). This includes measures under OP 3, PA 1, 3.2.1.3.; PA 3 and PA 4 in Romania and OP 3 PA 3, 5, 6, and 8 in Poland.
Source: Own calculations based on the automotive dataset and governments' data on EU funds.

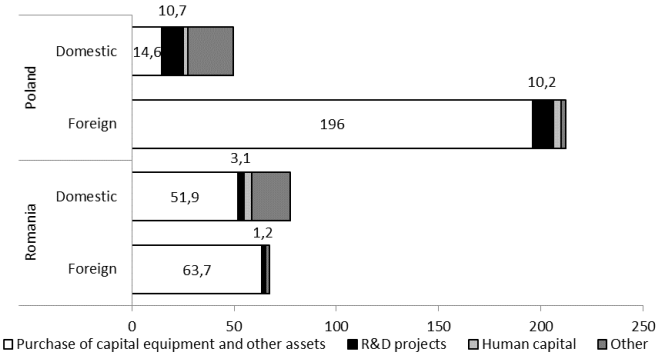

Figure 2. EU funds by type of firm and project, mn EUR.
Note: For detailed description of categories, see Table 4 above.
Source: Own calculations based on the automotive dataset and governments' data on EU funds.

All of this suggests that a good part of EU funds is being used to fund routine investments of large multinationals. This is not only wasteful, as such activities would have likely happened even in absence of any public support, but also counterproductive, as it diverts funding from firms that would have needed it more and reinforces the competitiveness gap between the large foreign firms and their local counterparts. It is, of course, very difficult to know how innovative a company's project really is. The applications are usually tailored to fit the requirements of the call, and the companies do their best to advertise their own investments as boons to the countries at large. For instance, the EUR 14 million in national and EU funding awarded to Renault in 2014 was widely touted as a subsidy to the development of a competitiveness pole Auto-Muntenia, which would in time contribute to the growth and export competitiveness of the entire regional cluster (Ministerul Economiei, 2014). Yet, all five grants awarded within this package went to two of Renault's subsidiaries—Automobile Dacia and Renault Technologie Roumaine—to construct facilities for the production and testing of a new engine model that had already been announced. The model change came in response to the EU regulation on vehicle emissions requiring all engines installed as of September 2014 to meet Euro 6 standards (Commission Regulation (EU) No. 459/2012), and it is very difficult to imagine that this project would not have happened without the subsidy. Even so, 30% of the total costs of this EUR 36 million investment had been covered from the EU's coffers.

In Poland, Bridgestone won close to EUR 42 million in 2015 and 2016 to cover about 25% of the costs of expansion and upgrading of its tyre factories in Poznan and Stargard. The investment was part of a larger EUR 266 million investment package by the Japanese company to expand and upgrade its European facilities. In addition to the two Polish factories, this also included a EUR 70 million investment in Burgos, Spain (Ureta, 2017). Since Burgos has a GDP higher, and unemployment lower than the EU average, it qualifies for minimal EU funds and no state aid, thus the investment went ahead without public support. It is hard to imagine that the Polish investments would have been so much more difficult to finance without public help, especially as the two facilities are decades younger than the one in Burgos. The majority of other investments supported by the EU funds similarly include minor equipment upgrades in anticipation of new product models or expansion of existing facilities. Though the Polish programming documents specifically state that projects related to establishment of R&D activities will be prioritized, not a single one of the top ten funded projects in the automotive industry mentions establishment or development of an R&D centre in the project description.

1.4 Conclusion

Although the FDI-centred economic strategies of the ECE countries have successfully embedded these economies into the global market, this emerging model of dependent

development is not without downsides. As domestic economic performance continues to depend on large multinational firms, it is difficult for the public authorities to find ways to steer their business decisions in the direction that would contribute to further domestic development. Meanwhile, keeping the investors happy requires continued provision of various incentives, and thus diverts funds from projects that would assist the upgrading and development of local businesses. In the long run, this may lead to persistent economic disparities between East and West, leaving ECE in a middle-income trap and foreclosing these economies' chances to catch up with the more advanced states.

The European Union's transnational industrial policy provides an important corrective to such practices. Driven by a market-preserving logic, the European state-aid regime, which sees the promotion of private businesses through public funds as a violation of intra-EU competition, sets legal limitations on investment competition. More importantly, the market-correcting EU funds offer compensatory public resources targeting the least developed areas in order to enhance their development by promoting SMEs, research, innovation, and training activities. In this way, the EU funds represent an opportunity to partially mitigate the shortcomings of the dependent development model.

However, in this chapter we have argued that the reach of these policies has been limited. As a consequence of the ECE's structural dependence on FDI, in combination with the peculiarities of EU policies themselves, the EU's market-correcting instrument can turn into a market-amplifying one. More specifically, EU funds may be used as incentives to large multinational enterprises, funding routine foreign investment projects that would have been realized even in absence of public grants. This is because EU funds are distributed competitively, and since foreign firms in ECE are eligible to apply, their competitive advantage over most domestic SMEs in preparing quality applications and raising their own resources play to their favour. In addition, contracting large amounts of EU funds to multinationals eases the problems with domestic fund-absorption capacity, which is a particularly pressing issue in the less developed ECE member states. Last but not least, foreign firms are accustomed to receiving sizable subsidies for their investment projects in ECE, a practice that they expect central governments to continue in order to secure further investments. In these circumstances, the distribution of EU funds to the benefit of multinationals seems nearly guaranteed in the Eastern European members.

To test our argument, we analysed the funding contracts to the automotive industry in Poland and Romania in the 2007-2013 programming period. In both countries, the automotive sector plays a key role in the domestic economies and is overwhelmingly dominated by large foreign enterprises. What is more, local businesses in this industry face difficulties with integrating into the value chains controlled by multinational carmakers and their suppliers. Domestic firms in this sector are thus in dire need of gaining access to external capital, such as EU funds, to upgrade their production systems and to survive the fierce market competition.

However, the structural dominance of foreign enterprises in the automotive industry may divert EU funds from SMEs to the multinational companies.

While our expectations about EU funds being diverted to multinational enterprises have been confirmed, our results reveal a mixed picture. After controlling for several firm characteristics such as size, productivity, and age, we found that foreign automotive firms are in fact less likely to receive EU funds than the domestically-owned ones. However, both the likelihood of obtaining EU grants and the size of those grants show a strong bias towards larger firms, which in turn, tend to be foreign. This is why a notable share of EU funds contracted to the automotive sector goes to multinationals even though the pattern is considerably more distributive than in the case of traditional state aid disbursed from the national budgets. Firm productivity is also positively associated with EU grants, which confirms the competitive character of fund distribution. While we do not find significant differences between the two countries in the propensity to award EU grants to multinational firms, we do find some differences with respect to funding to domestic firms. Specifically, the distribution of funds is more concentrated in Romania, with fewer SMEs obtaining funds relative to their number in the sector. This is an indicator of the country's lower fund absorption capacity. It also suggests that while the pressure to compete for FDI poses a similar external constraint to ECE governments' space for manoeuvre, the extent to which they are able to take advantage of the tools of the EU's transnational industrial policy also depends on their domestic institutional capacities (see Medve-Bálint & Šćepanović, 2019).

The problematic nature of the above funding pattern does not necessarily lie in the fact that multinational enterprises obtain EU grants, but that most of those funds support projects that are not innovative in character. As we have shown, the vast majority of EU funds contracted to foreign automotive firms assist the purchase of capital equipment and other assets—or, to put it differently, routine investments that would have been realized without any public support. This contradicts the main objectives of EU funds and may contribute to the negative economic consequences of the dependent development model. While the Commission is aware of the problem, the design of the 2014-20 funding programmes continues to allow it. In the current funding cycle, three PAs of the Smart Growth OP—which, in terms of objectives, has replaced the Innovative Economy OP in Poland—are available to the private sector, and two of them are open to large enterprises. This means that large firms, including multinationals can, in principle, compete for 69% of the total EU contribution of EUR 7 billion allocated for the three PAs.[40] The situation is similar in Romania: the

40 The authors' own calculation based on *Detailed Description of Priority Axis of Smart Growth Operational Programme 2014-2020*, Warsaw: Ministry of Infrastructure and Development, 22 October 2015 (Available: https://www.poir.gov.pl/media/11337/SZOP_POIR_22102015_ang.pdf, accessed on 1 July 2018)

primary instrument for supporting businesses, the Competitiveness OP, has two PAs and, except for a single action assisting SMEs in accessing venture capital, nearly the entire budget of EUR 1.3 billion is open to large firms as well.[41] Most notably, the reason that the EU funds may continue to subsidize multinationals is that the same ECE states that are increasingly complaining about being colonized by Western capital, and blaming the EU for it, have not found a way to extricate themselves from structural dependence on FDI and have thus done everything in their power to ensure that the EU funding programmes remain open to large firms.

Our analysis has thus revealed that the structural power of multinationals, and the funding allocation mechanisms combined with the states' dependence on foreign capital, create a perverse outcome: the least developed regions of Europe spend their own, as well as the EU's resources, to finance some of the richest firms in the world. This is not only wasteful, it potentially prevents these countries from overcoming the economic drawbacks of the dependent development model. Nevertheless, the empirical evidence presented here is limited to a single albeit highly important sector, the automotive. Further inquiries should investigate whether or not a similar pattern characterizes the distribution of EU funding contracted to other industries in ECE.

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41 The authors' own calculation based on *Programul Operational Competitivitate* (Available: http://www.fonduri-structurale.ro/Document_Files/FonduriStructuralesideInvestitii2014-2020/00017898/7omhh_POC.pdf, accessed on 1 July 2018)

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Appendix

Table A1: Correlation matrix of the explanatory variables.

	Operating revenue	Number of employees	Operating revenue per employee	Age	Foreign-owned
Operating revenue	1				
Number of employees	.83***	1			
Operating revenue per employee	.62***	.08***	1		
Age	-.09***	-.17***	-.04	1	
Foreign-owned	.54***	.46***	.33***	-.05**	1

** p < .05 *** p < .01

Source: Own elaboration

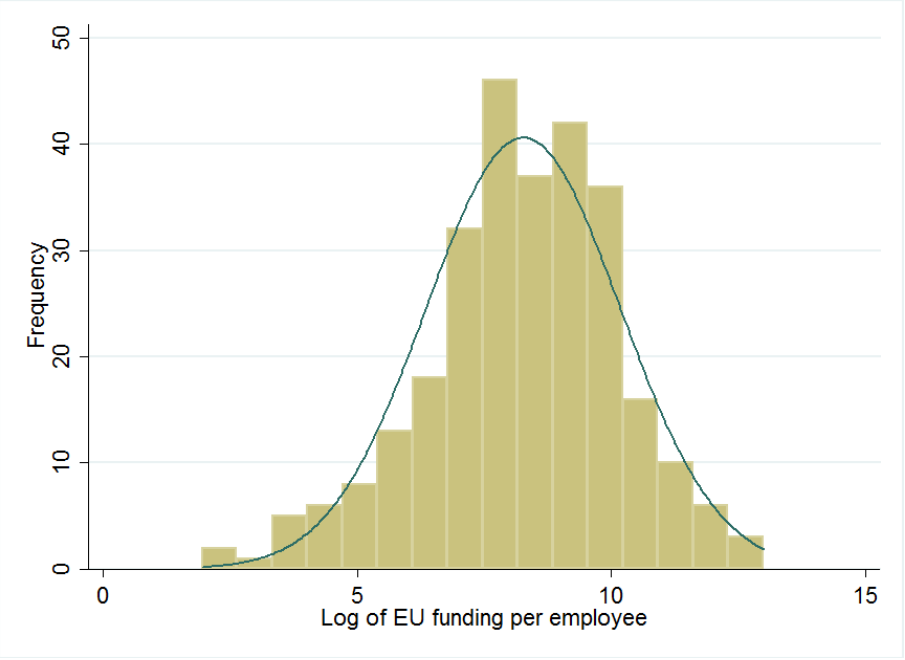

Figure A1: Distribution of EU funding per employee (logged), non-zero cases.

Source: Own elaboration

Table A2: Descriptive statistics of the independent variables. **(Original scales)**

Name of variable	Min.	Max.	Mean	SD
EU funds per employee (EUR)	0	438467	3519.6	20885.7
Total operating revenue (mn EUR)	0	4623.9	49.38	207.80
Number of employees	1	13835	350.23	935.14
Operating revenue per employee (mn EUR)	0	10.9	.192	.62
Age of firm	1	58	13.58	6.36

Source: Own elaboration

2 The Hungarian Experience of Using Cohesion Policy Funds and Prospects

György Nyikos[42] & Gábor Soós[43]

Abstract: Since Hungary joined the European Union, cohesion policy funds have opened up a number of opportunities for development. The general belief was that, with such funding, the prospect of higher economic growth, new jobs, higher wages and improved standards of living would arrive. While Hungary has implemented a number of projects, and the country has been fairly successful in the absorption of funds, there has not been a real sentiment of success following the closure of the last two programming periods. Despite being one of the biggest net beneficiaries of funds, Hungary has not achieved exceptional economic performance. In light of this, it is important to examine the possible causes of this limited success. This research thus presents an overview of the evolution of the administration dealing with cohesion policy and the set-up of the legislative framework in each programming period. Data analysis is conducted on Hungary's use of EU funds and is contrasted against economic indicators during the same period. Based on the findings from analysing Hungary's prospects as a recipient of EU funds, suggestions are made about what the implementation practice should take into consideration.

Keywords: Cohesion policy, development fund's effects, institution system, simplification

2.1 Introduction

A review of literature revealed a lack of consensus on whether or not cohesion policy has a true impact on the economic performance of EU member states. In some studies, research carrying out in-depth analysis on this subject evidenced significant impact. In the 90s, several studies measured impact using macroeconomic models (e.g. Cappelen et al., 2003; Pereira & Gaspar, 1999). The European Commission has published plenty of evaluation studies[44], where findings broadly confirmed the positive impact of subsidies. There is also a body of literature indicating that EU cohesion policy does not result in the desired impact on Central and Eastern European

42 National University of Public Service, Institute of Public Finance and Financial Law, Hungary. Correspondence: nyikos.gyorgyi@uni-nke.hu

43 National University of Public Service, Institute of Public Finance and Financial Law, Hungary.

44 Please visit http://ec.europa.eu/regional_policy/en/policy/evaluations/

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(CEE) countries. Borsi and Metiu (2013) have concluded that there is no real income *per capita* convergence in the European Union (Borsi & Metiu, 2013: 11). Others have pointed out that the convergence process has been interrupted by the economic crisis and that disparities will prevail, not only between the old and new member states, but also between the richer and poorer regions. The sluggish pace of the convergence process will be insufficient to counterbalance the forecasted increase in disparities (Camagni & Capello, 2014: 7).

A simple examination of Hungarian data from the past 12 years does not capture the impact of the funds received.[45] In fact, the Hungarian economy has struggled in various ways as early as 2007, and only started to recover fully from the economic crisis in recent years. Nevertheless the main objective of cohesion policy—namely, to help convergence—in CEE countries might not be immediately obvious from basic economic data. The data indicate that the effect of the crisis was still quite severe, both in Hungary and in other member states, despite there being a steady flow of EU funding during the crisis. Even so, EU funds did help alleviate the negative effects of the crisis in CEE countries. Counterfactual impact evaluations and macro-level approaches show that, without EU funds, the Hungarian GDP growth rate would be even lower (Nyikos, 2013a; Balás, 2015). For example, infrastructure developments could still receive funding, whilst money is still available for SMEs both in the form of grants and financial instruments. The latter was particularly significant given that many banks were reluctant to offer loans at the time. This is contrasted against the current recovery from the crisis, which impacted financial institutions inversely through increasing their willingness to offer loans. Furthermore, economic models have shown that, in beneficiary countries, consumption and wages increase inline with an improvement in productivity. While private investments might be crowded by EU support in the short term, in the medium term increase in productivity becomes significant and investment expenditures grow (Kengyel, 2014: 504).

Administrative capacities and efficient procedures may also have a bearing on whether the impacts of funds are maximised. This is especially important, since member states are responsible for managing programmes, including project selection, control and monitoring (to prevent, realize, and correct any irregularities) and project evaluation (Nyikos & Talaga, 2015: 116). The literature also highlights the contribution of cohesion policy to economic development, revealing that it is conditional on the capacity of national and regional institutions to design robust strategies, allocate resources effectively, and administer EU funds efficiently (Bachtler et al., 2014: 735). In order to ensure efficient functioning of all implementation systems, it is essential to clearly define powers and responsibilities and establish well-functioning coordination mechanisms, which are well

45 See data in **Figure 6**.

documented and properly implemented (Nyikos, 2013a: 52). Weak capacity levels can hamper the effective management and implementation of the Operational Programmes and as a result negatively affect the overall regional development outcomes (Smeriglio et al., 2016: 178). It has also been estimated, through analyses of the absorption of regional funds, that government capacity is positively correlated to ERDF absorption performance (Tosun, 2013: 2). In Hungary, there are sufficient administrative capacities in place to enable adequate implementation of funds. Hungary has also managed to absorb most of the funds available to it in the past two programming periods. On the other hand, the quality of projects may well have had an income on the Hungarian economic data. The literature supports this by pointing out that promoting faster spending through the de-commitment rule has conflicted with the goal of more effective spending through the performance reserve and more targeted spending under the earmarking requirement (Bachtler & Ferry, 2015: 1270).

In Hungary, the pressure to try to spend all available funds often resulted in the diminishing significance of project-selection quality. This happens towards the end of the programming periods. Yet even so, the Hungarian Government has made plans to commit all available funds for the current programming period before 2019. Looking at the results of this decision, there are uncertainties on whether or not such actions will maximise the positive economic impact of the funds.[46]

2.2 Methods

Research methods in this study are twofold: First, we analysed the relevant European and national regulations, literatures, evaluations of the implementation of EU funds in Hungary in the period 2004-2015. This enabled to collect and assess the relevant factors which may influence the results of the use of EU Cohesion Policy funds. In particular, we looked at the issues pertaining to governmental-structure changes and the availability of sufficient administrative capacity in that timeframe, as the regulatory and institutional environment strongly affects the capacity for the efficient and effective use of the funds (Nyikos, 2013). Information collection and validation rely on a range of further sources, including official websites and annual reports, scientific literature, and last, but not least, a great array of interviews with Cohesion Policy experts.

Second, we looked at the figures linked to EU funds to examine its impact on Hungarian economic performance, whether or not outcomes were positive, and how funds were used to offset negative effects of the economic crisis. We assessed the

46 In regions in Hungary competitiveness remained largely unchanged over the 6 years. (Seventh report on economic, social and territorial cohesion)

relation between the data on absorption and the Hungarian macroeconomic figures to measure the country's performance and identify improvement needs. The research is then expanded into a section explicating the use of financial instruments and how these special types of financing tools function and the challenges that arise from it. By examining significant phenomena linked to the implementation of cohesion sources in Hungary, we find factors that explain the results and issues that need improvement in the future.

2.3 Results

Results obtained are interpreted as the causal impact of cohesion policy in Hungary. Our findings confirm that the funds had a positive impact on Hungarian economic performance. However, the Hungarian implementation of the programmes has been difficult and problematic with increasing irregularity levels, not only because of the complexity of cohesion policy regulation, but also because of institutional and regulatory changes in the Hungarian implementation system. Besides the positive macro-economic effect, the funds did not improve productivity, even though they would be essential for long-term convergence.

2.4 Discussion

2.4.1 Implementation of EU Funds: Administration and regulation in Hungary

Cohesion policy legislation, at both EU and national level, are very complex. Besides the strict and complicated cohesion-policy-legal framework, member states also have to comply with other sets of rules, such as state aid and public procurement. In this complex legal environment, the permanent institutional reorganization significantly increases the risk against proper and regular implementation. Partly, this phenomenon caused government effectiveness to diminish in Hungary the between 1996 and 2015 (Seventh Cohesion Report: 137).

Extant literature suggests that effective use of EU funds depends on member states having sufficient administrative capacity to manage these funds. Undoubtedly, cohesion policy works best in an environment that is supportive of such policy (Nyikos, 2013b: 173). Initially, most Central and Eastern European countries had perceived weaknesses in their legal frameworks, administrative structures, and management systems. However, further attempts have been made to solve these problems through better human resource management, including increased salaries and better career prospects (Bachtler et. al, 2014: 750). In Hungary, it took some time before administrative structures and cohesion policy legislation were developed, only for implementation to be hindered by the continuous institutional and regulatory

changes taking place. This instability and excessive overregulation not only increased the administrative burden for both beneficiaries and implementing entities, it also complicated overseeing and addressing all ongoing changes that were causing substantially higher compliance risks.

The initial structure of the regulatory framework that Hungary created for the programming period 2004-2006 was rather complex. The domestic regulations not only supplemented the EU regulations, it provided detailed obligations[47]. Managing authorities[48] retained the right to issue OP and fund-specific rules—each of them adopting their own operational manual. The involvement of multiple agencies[49] with overlapping authorities created difficulties in maintaining a nationally-consistent approach to the interpretation and employment of regulatory requirements. In the 2007-2013 programming period, a complete overhaul of the system took place. The newly established National Development Agency (NDA) took over the role of managing authorities from all the relevant ministries. The rationale behind this was that national-level objectives could be better realized compared to sectoral objectives, and that the coordination of measures taken under different programs could be improved. Further justification for reorganization revolved around centralization and standardization, where certain tasks such as the operation of IT systems, evaluation, and communication were also centralized within the NDA. Despite the efforts to enhance and cascade shared understanding of the rules throughout a structure comprising more than 25 executing bodies, the overlapping regulations inevitably led to different departures in legal interpretation. Likewise, inconsistency and fragmentation generated an additional compliance burden.

As a result, complete mid-term revision commenced in 2010. This included re-programming and institutional redesign in addition to revisiting the regulatory framework. Coordination and control functions of the managing authorities had to be strengthened and provisions increasing efficiency had to be introduced. The fractured regulatory landscape was replaced by a general overarching government decree[50] that provided a clearer distribution of tasks between managing authorities and intermediate bodies. It also contained the description of the delivery principles and

47 National rules on the use of EU funds were divided between 5 pieces of legislation, which were supplemented with an Operational Manual containing even more detailed rules on how to implement each process. There was one ministerial decree jointly adopted by 5 different ministries regulating procedural rules. Then there were separate government decrees each regulating one separate area, namely institutions, finance, guarantees and sanctions.

48 3 ministries (Ministry of Economy, Ministry of Agriculture, Ministry of Employment) and the independent Hungarian Territorial and Regional Development Office

49 The implementation system carrying out the actual transactions was rather fragmented with 22 intermediate bodies.

50 Government Decree 4/2011. (I.28.) on the use of assistance from ERDF, ESF and the Cohesion Fund in the 2007-13 programming period

governed the functions of project selection, financial implementation and control, management of irregularities and collateral. This regulatory architecture improved consistency and coherence. As a final change towards the end of the programming period, supervision of the NDA was moved from the Ministry for National Development to the Prime Minister's Office.

The start of the 2014-2020 programming period brought with it further substantial changes in the cohesion policy institutional system. From the 1st of January, 2014, the NDA was abolished and its functions were distributed between the pertinent ministries and the Prime Minister's Office. Managing authorities were transferred (back again) to the line ministries. The Prime Minister's Office was also entrusted with the tasks of central coordination[51]. Intermediate bodies were also abolished and their tasks were integrated into the competent ministries carrying out managing authority functions. An exception to this is the Hungarian State Treasury, which acts as an intermediate body for the Territorial and Settlement Development OP.

Driven by the intention to advance efficiency and effectiveness, the government chose to radically recalibrate the programming architecture as well as amend the legislative and institutional environment for the period between 2014-2020. However, the legislative concept remained—namely, to merge all domestic legislative provisions dealing with the system of EU funds implementation into a single government decree.[52] Notwithstanding, this proved complicated, lengthy[53], and resulted in 6 annexes[54]. Despite its complex nature, the new decree does provide for some simplifications. The utilization of a simplified project selection method and of grant letters—rather than two-sided grant contracts, which took months to be signed, for relatively straightforward, small-scale projects—was extended significantly.

Thus far, there have been repeated attempts to rationalize the implementation systems and to establish a logical distribution of tasks between institutions. Hungary at last opted for a system, with very strong centralized control, and with a single coordination body and a handful of ministries acting as managing authorities. From this it would seem that adequate administrative capacities exist in Hungary for the implementation of EU funds. However, the continuous reorganizations also resulted

51 The Prime Minister's Office is responsible for member state level coordination tasks, which includes the preparation of programming documents, functions related to programme implementation, monitoring of use of funds, preparation of legislation and proposals for their amendment, and centralised management functions related to programs (e.g. communication, evaluation).

52 Government Decree 272/2014 (XI.5.) on the use of support originating from European Union funds in the 2014-2020 programming period.

53 Its main body contains over 200 sections and its Annex 1 containing the Operation Manual has 388 paragraphs

54 The first of which consists of the Operational Manual. Annex 5 contains a detailed manual on eligible expenditures. The other annexes have provisions on institutions responsible for policies, designation of bodies, document samples and control aspects of supporting documents.

in negative effects on the system in the form of increased staff turnover and the loss of qualified employees. Salaries of civil servants in Hungary continue to be relatively low compared to the private sector, where the salary base remains unchanged since 2008. Therefore, staff retention is proving to be a challenge for managing authorities. Certain incentives such as performance-related premiums are used to alleviate the problems, but the general sentiment is that more needs to be done.

Table 1: Fluctuation in the Hungarian institution system.

Year	Fluctuation
2014	12.7%
2016	14.7%
2017	12.6%

Source: Nyikos, data from the KÖZSTAT

Having all relevant provisions in a single piece of legislation is certainly a significant improvement and is projected to make the life of people working in the implementing institutions easier. However, it must be reiterated that the new government decree is not an easy one to apply. Firstly, despite being extensive already, practitioners still insist that the rules do not cover all relevant situations[55]. Furthermore, the decree was adopted in a rush at the beginning of the period, meaning that it constantly had to be adapted to practical issues surfacing during implementation. As a result, it has already been amended 44 times with more amendments expected. While constant amendments can ensure that all legislative problems are resolved, this causes uncertainty in the implementation process, which has the potential to hinder the efficient use of funds. However, the effectiveness of regional policy depends largely on the efficiency of the operation of management organizations and, in general, on the functioning quality of the administrative system as well. Several research (Charron, Lapuente & Rothstein, 2011; Charron & Lapuente, 2013; Charron, Dijkstra & Lapuente, 2014; Nyikos & Kondor, 2019) and evaluation confirms that the quality of governance and public administration of countries also affects the capacity for the efficient and effective use of the cohesion funds, and in Hungary, there is room for improvement in this area.

55 E.g. the experience of the authors is in particular that the provisions on the use of financial instruments are inadequate

2.4.2 Financial Instruments in Hungary

In the analysis of the effectiveness and the results of the use of cohesion sources in Hungary, and in considering future prospects, it is important to examine the use of financial instruments (FI). Financial instruments have attracted interest because of their revolving character— meaning, FIs invest on a repayable basis, as opposed to grants, which are non-repayable investments[56]. Their use has been promoted because of the added value of revolving instruments compared to that of grants in terms of the efficiency of use of public resources. Secondly, by unlocking other public sector funding and private sector resources through co-financing and co-investment, FIs increase the overall capital available (Nyikos, 2016; Nyikos & Soós 2018a: 15; 2018b: 18).

Through an examination of the use of FIs, we detect that the credit schemes have over-performed in terms of financial targets. Yet, in the case of guarantee and venture capital schemes, we observe a very slow take up and consequently, slower progress in the allocation of funds. Reasons for the differences in the financial performance indicators are manifold. For instance, slower allocation can be partly institutional and regulative (e.g. time-consuming institutional setup process in the first half of the programming period and perception of regulatory burden when it comes to guarantee schemes), or they can be partly strategic (e.g. higher demand for credit schemes, especially for those combined with non-refundable grants).

In the 2014-2020 period, 60 % of all ESI Funds were dedicated to economic development and job creation. With an allocation of EUR 2.3 billion, Hungary is almost tripling its allocation to financial instruments compared with 2007-2013. Besides SME-development support, the use of FIs has been extended to R&D&I, energy, ICT and the social economy. Following a slow start, all loan products and loans combined with grants have been launched, whilst venture capital programs are also under preparation. However, their effectiveness is yet to be determined. There were several changes in the FI implementation.

56 FIs are defined also in Financial Regulation as measures of "financial support provided from the budget in order to address one or more specific policy objectives by way of loans, guarantees, equity or quasi-equity investments or participations, or other risk-bearing instruments, possibly combined with grants".

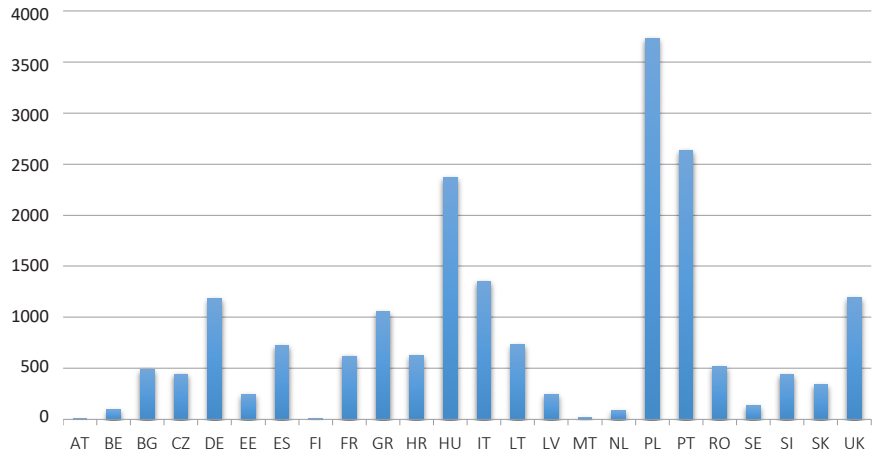


Figure 1: FIs in 2014-2020 period (ESIF in million EUR).

Source: (Nyikos 2016), data from the EC (downloaded on 9. 7. 2016), OPs adopted by EC

Hungary implemented FIs in the pre-accession period and, again, in the 2007-2013 programming period when financing was provided in the form of loans, guarantees, and venture capital. According to programme documents and AIR 2013, the main objective of FIs was to overcome the limited access of finance on the market, driven by the assumption that their FIs may represent more efficient forms of SME support than grants.

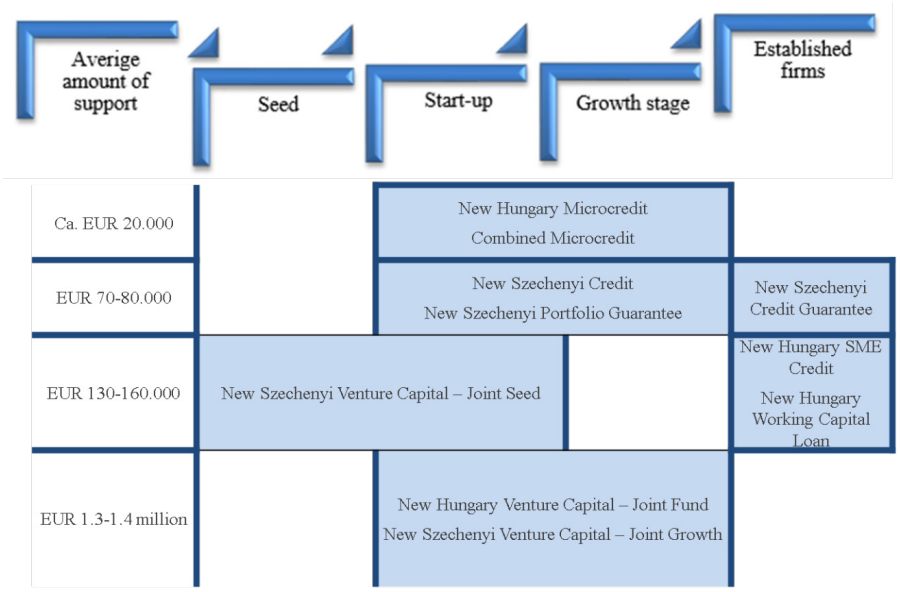


Figure 2: Different FIs in 2007-2013 in the business development cycle.

Source: Nyikos compilation, info from financial agreements and Fontium (2015).

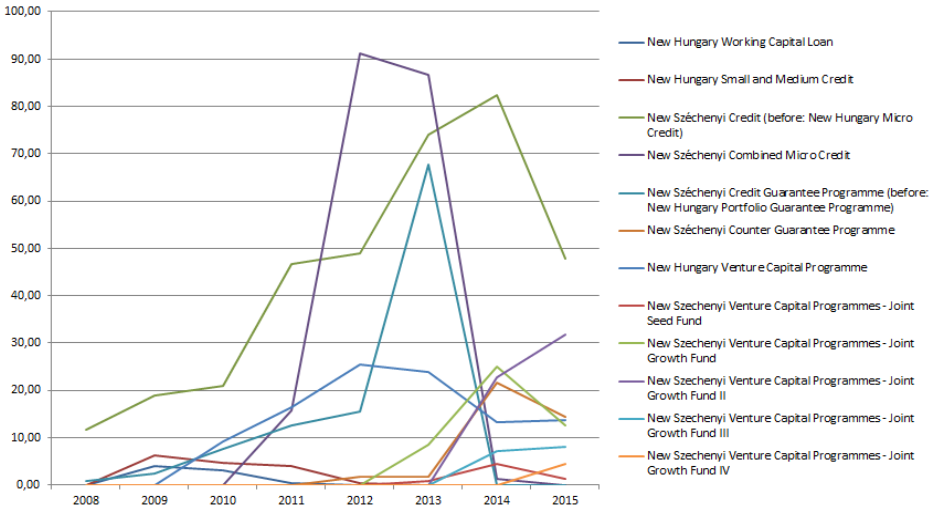


Figure 3: Absorption process of the different Hungarian FIs.
Source: (Nyikos, 2016), data from Hungarian Development Bank

In 2007-2013, Hungary worked with a widespread external intermediary network (credit institutions, financial enterprises, and local enterprise development agencies). In 2014-2020, the financial intermediaries had to be selected through formal public procurement, so a banking consortium as distribution network has been procured. Furthermore, the system based on a re-financing model changed into a distribution system. Likewise, the size of loans increased, as the microfinance model changed to SME finance. This could have been a potential problem with the "number of supported companies" indicator, since it was planned based on previous experience. The use of FIs thus offers more incentives to businesses to use their funds properly and encourage profitable investment. The revolving nature of financial instruments will, as such, allow funds to be re-used in the future.

Table 2: FI loan size in 2007-2013 versus 2014-2020 (in HUF).

	2007-2013	2014-2020	Change
Average loan	16 072 044	91 927 470	572%
Average combined loan	6 450 631	54 729 824	848%

Source: Nyikos compilation

2.4.3 Absorption of EU Funds and Economic Performance

As suggested in the previous section, Hungary has established its necessary legislative and administrative systems for the use of EU funds, even though challenges, such as maintaining adequate staff levels, remain because of the constant reorganization. Even so, it is necessary to see whether or not the use of EU funds throughout the past programming periods has led to a positively measurable economic performance in the country. Data from all programming periods show that Hungary has had very high allocations of EU funds and has been fairly successful in their use if measured by the percentage absorbed.

Naturally, as Hungary joined the EU in 2004, it did not participate in the 2000-2006 programming period; it was only allocated a relatively small amount of 2.8 billion euros for the last 3 years of that period. In the next programming period, it received a fairly large amount, i.e. 25.3 billion euros, seizing a lucrative opportunity to boost the economic development of the country. For the 2014-2020 period, it managed to practically maintain the budget it was due to receive from the EU, as its allocation was set at an impressive 25.0 billion euros. Hungary in fact has the second highest allocation of funds per capita. The receipt of such an amount of funding, if used properly, could boost Hungary's GDP growth and other important economic indicators.

According to the relevant data, it seems that Hungary has managed to spend the vast majority of allocated funds in its first programming period. In Hungary, between 2004 and 2008, 95% of ERDF and EAGGF funds have been paid out while the absorption rate for the ESF was 91.02% and 86.19% for the FIFG. Hungary had a total absorption rate of 94.11% for all the Structural Funds, which was better than both EU25 averages (Bachtler et. al., 2014: 743). Hungary's absorption of funds was similarly quite successful in the 2007-2013 programming period. Not surprisingly, the rate of payments took off quite slowly in 2007, while an increase took place towards, and beyond, the end of the programming period. As a result of the ERDF, ESF and the Cohesion funds, Hungary managed to absorb just over 94% of available funds—the EU28 average was 94.45%, slightly above the Hungarian absorption rate.

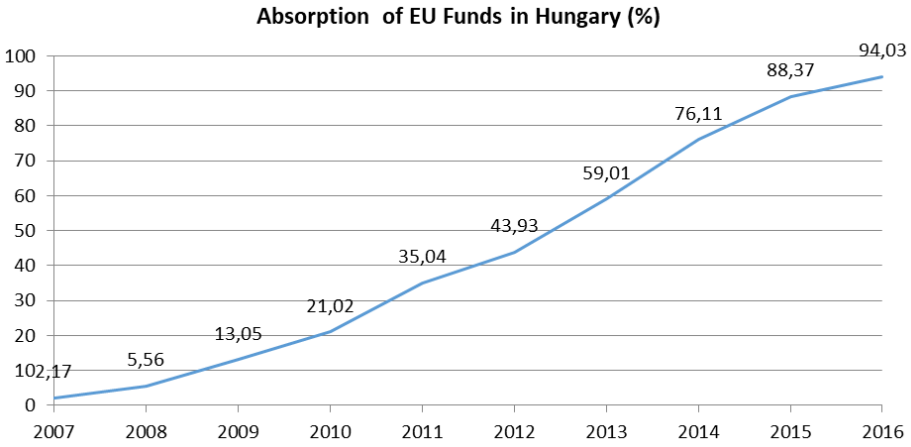
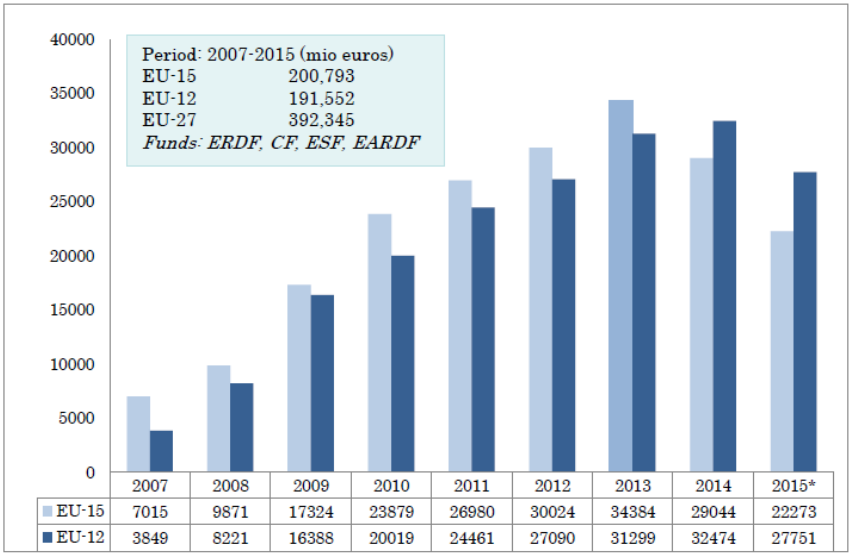


Figure 4: Absorption of ERDF, ESF and CF in Hungary in the 2007-2013 programming period.
Source: European Commission InfoRegio.

If we look at the rate of payments of funds for the EU as a whole, a similar pattern is discerned: that payments were very small in the first few years, before steadily increasing until 2013 (2014 for the EU12) and then dropping slightly in 2015.



	2007	2008	2009	2010	2011	2012	2013	2014	2015*
EU-15	7015	9871	17324	23879	26980	30024	34384	29044	22273
EU-12	3849	8221	16388	20019	24461	27090	31299	32474	27751

Figure 5: Time pattern of EU payments, all funds (million euros).
Source: EC 2017, referring to: DG REGIO. Totals for ERDF, CF and ESF in 2015 are estimated until end-year; EAFRD payment requests data until August 2015.

It must be noted that the absorption of the 2007-2013 programming period's transfers in Hungary accelerated after 2009 as illustrated in Figure 6.

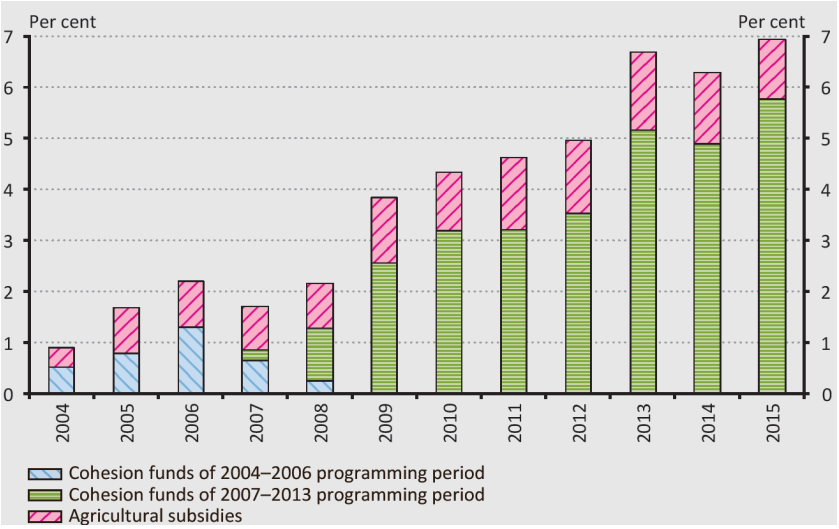


Figure 6: Absorption of the 2007-2013 programming period's transfers in Hungary.
Source: Hungarian National Bank.

There are several possible causes for why absorption has accelerated after 2009. One possibility is that, in 2007 and 2008, the funds of the previous 2004-2006 programming period were typically still being absorbed. Furthermore, it may be caused by the nature of the implementation of multiannual operational programmes and projects (implementation phase after longer preparation)[57]. Another possibility is that after the financial crisis, the state budget's situation stabilized, and due to the SPLs[58], it was able to provide pre-financing to the beneficiaries. It is also possible that centralisation of implementation (see section 4.1.), as was the integration of MAs into the ministries who worked more closely with the beneficiaries of major projects had a role. Finally, another cause could be attributed to the national cohesion rules on pre-financing expenditures, which have been changed, leading to an increase in possible advance payments. As so, it is too early to make any estimation on whether or not they will achieve the same outcomes in 2014-2020. However, since the programming period is well under way, it is worth looking at how payments are doing in Hungary and how

57 For several programmes, 2007 was a preparatory year, the first calls were launched in 2008 and most of the contracts were signed in 2009.
58 Structural programme loan, see more information: http://www.eib.org/attachments/documents/mooc_factsheet_eib_loans_en.pdf

these compare to the total allocations. Examining **Table 3** reveals that payments got off on a slow start, comparable to the previous programming period. Unlike the latter, there was a large increase in 2015, while in 2016 the amount of actual payments dropped again. Hungary's payments of EU funds have so far been below the EU average.

Table 3: Total EU cumulative payments in the 2014-2020 programming period.

Total EU payments			
	2014	**2015**	**2016**
Hungary (million EUR)	489	1879	2172
% of total	2	8	9
EU average (%)	3	9	13

Source: European Commission InfoRegio

Examining the fiscal and economic indicators, to determine if any direct correlation can be observed between the use of EU funds and improvements to the Hungarian economy, provides additional information on the usefulness of ESI Funds to support the Hungarian economy. After years of deterioration in Hungary's public finances[59], spanning the 2011-2016 period, the government has achieved considerable progress in strengthening public finances. Macroeconomic imbalances are being corrected whilst public debt-to-GDP ratio continues to drop. Markedly, the budget deficit decreased in recent years, as did the public-debt ratio, which continued on a declining path. This helped improve financial stability (see **Figure 7**)[60]. Yet, although financial vulnerabilities have been reduced, non-performing loans still hamper bank lending.

Nevertheless, total investment in Hungary fell following the crisis. Private investment started to decrease in 2008 and its share in GDP has continued to shrink ever since. Public investment has played a stabilizing role, owing to strong EU-funding support. Based on the commitment made by the EU in the 2007–2013 programming period, Hungary was entitled to a funding of EUR 35.3 bn (almost HUF 9,900 bn calculated at EUR/HUF 280, the average exchange rate of the period), accounting for roughly 35% of the country's annual GDP. The largest part of the allocation came from

59 The effect of electoral considerations in determining budgetary outcomes was evident in Hungary over the last 15 years, with government deficits reaching their highest levels in election years (1994, 1998, 2002 and 2006).

60 Following the outbreak of the financial crisis, the government debt-to-GDP ratio increased sharply, reaching almost 81 % in 2011. Since then, it has decreased by more than 6 pps., falling below 75 % by 2015.

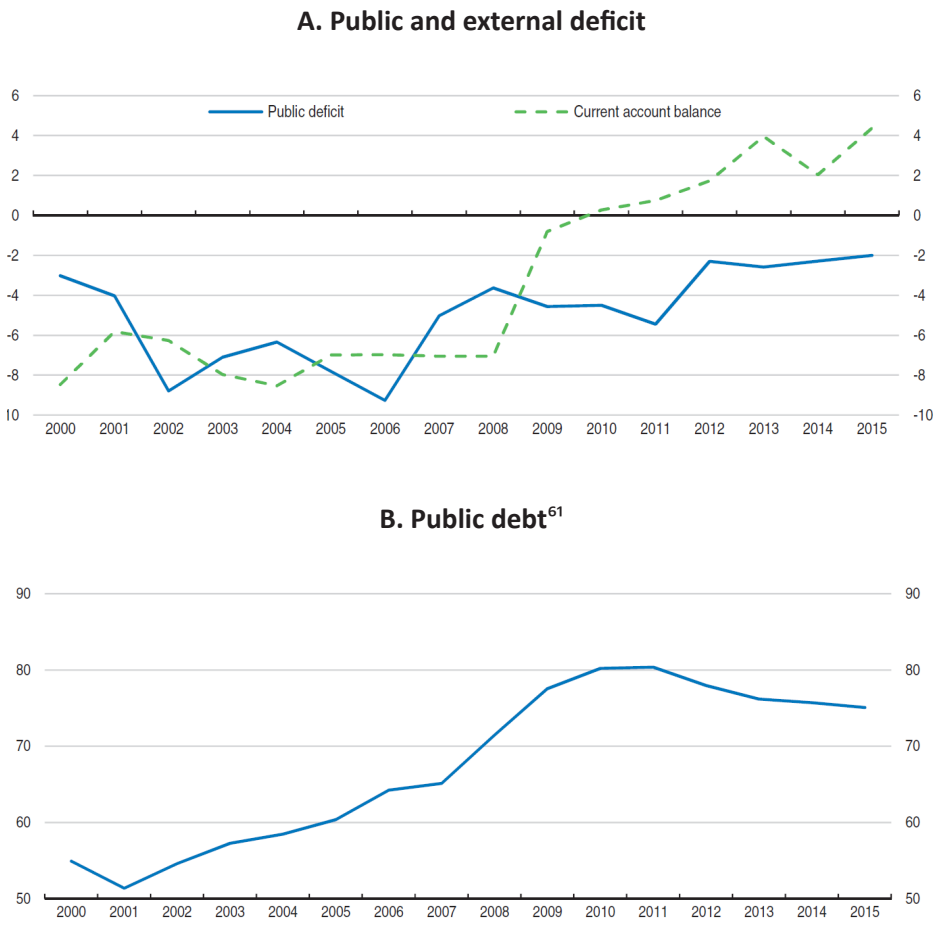


Figure 7: Macroeconomic imbalances are falling (% of GDP).
Source: OECD (2016), OECD Economic Outlook: Statistics and Projections Database.

the Structural Funds and the Cohesion Fund; these funds amounted to EUR 24.9 bn (HUF 7,000 bn). At the height of the crisis, difficulties in planning large projects and programmes hindered the payments in Hungary, which were further augmented by the need for advanced payments for the beneficiaries. The co-financing obligation must be respected if the cohesion policy funds were to be used, and this became increasingly difficult. Hungary was therefore in need of liquidity, and ostensibly, the cost of the sources became most vital.

61 Maastricht definition

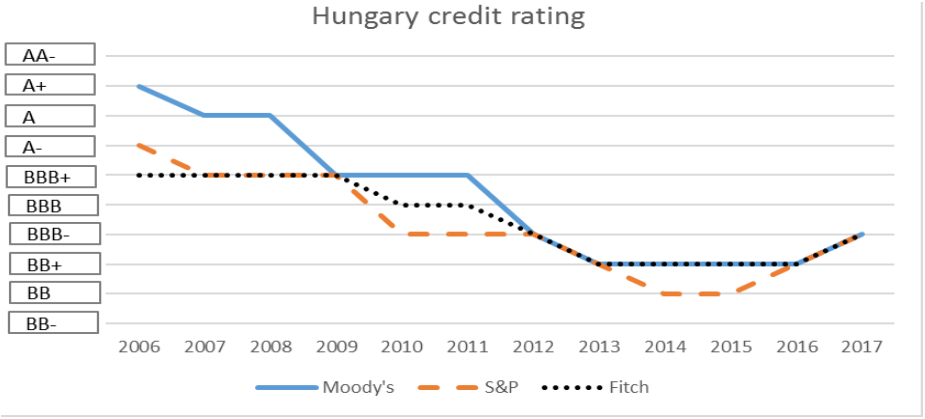


Figure 8. Credit rating of Hungary (2006-2017).
Source: Moody's, S&P, Fitch.

As such, the EIB's SPLs facilitated a kick-start implementation of the Managing Authority's Operational Programme, setting it on schedule[62]. In the 2014-2020 programming period, Hungary continues to use SPLs for financing the national contribution of ESI Funds as well as the Connecting Europe Facility (CEF).

Table 4: Financial details of the SPLs.

OPs	**The Social Renewal OP co-financed by ESF and Social Infrastructure OP co-financed by ERDF**	**2007-2013: Transport OP, Environmental and Energy OP 2014-2020: Integrated Transport Development (ITOP), Environment and Energy Efficiency (EEEOP) and Connecting Europe Facility (CEF)**		
Source	**EDUCATION CO-FINANCING FACILITY (HU) (20060511)**	**COHESION FUND FRAMEWORK LOAN (20040589)**	**COHESION FUND FL II (20100410)**	**COHESION FUND FRAMEWORK LOAN IV (20150006)**
EU funds (EUR m)	3,737.79	1,157.27	7,319.00	7,624.00
Other funds (EUR m)	359.61	133.81	1,048.00	346.00
EIB funds (EUR m)	300.00	300.00	770.00	1,000.00
TOTAL (EUR m)	4,397.40	1,591.07	9,137.00	8,970.00

Source: Nyikos, data from EIB

62 Interview conducted with the Ministry of National Economy.

Given the magnitude of cohesion policy funding in Hungary, the macroeconomic effects of cohesion funds cannot be ignored. Towards the end of the 2007–2013 programming period, the absorption of EU transfers gradually increased; net grants—reduced by contributions—reached 5–6% of the GDP. In addition to the accelerating payments, the Hungarian State paid the available total allocation of EUR 24.9 bn in full. In excess of the total allocation, overspending of roughly EUR 1.9 bn also occurred, which may have helped to avoid the loss of funds. **Figure 9** shows the significant effect of cohesion policy on both GDP and employment.

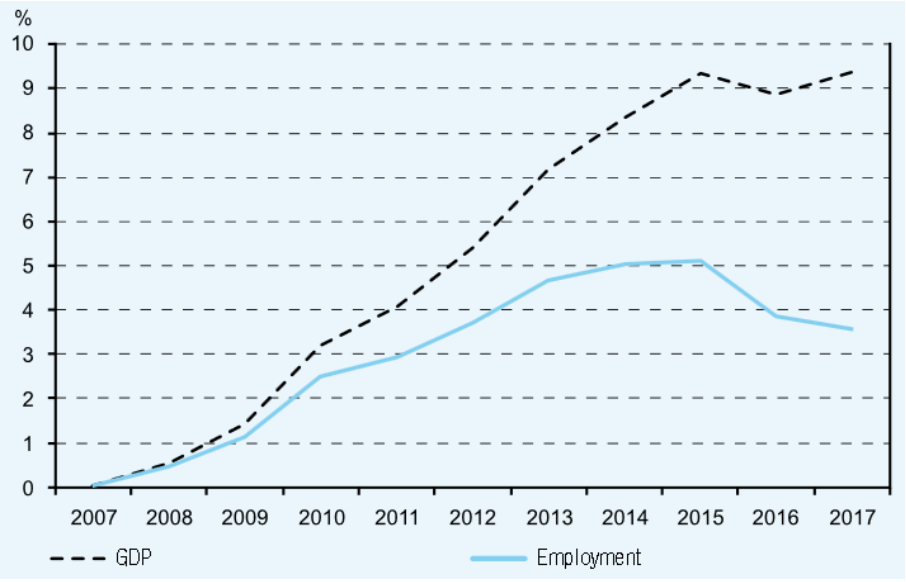


Figure 9: The estimated impact of the national strategic reference framework (2007-2013).
Source: (Nyikos, 2013b), referring to data received from the National Development Agency.

Using a model[63], the impacts of fund utilisation were compared to a situation without EU development funds. The calculations showed a 5.5% GDP surplus on a yearly average, compared to a scenario without funding. The simulation also shows that the simultaneous presence of recession, slow growth, and funding, does not necessarily indicate the inefficiency of funding. It is possible that without this funding, the given segment of the economy would be much worse (Nyikos, 2013b).

63 For a detailed description of the model see: http://www.nfu.hu/modellezes

A study carried out for the European Commission (2017)[64] shows that cohesion and rural development policies effected many key economic variables of Member States in the 2007-2013 programming period. The study highlighted that interventions substantially increased GDP, in particular in the Members States that are the main beneficiaries of the policies. The highest impact was found in Hungary, where GDP increased by 5.3% (EC, 2017: 23). In addition, **Figure 10** (also published by the European Commission) shows the estimated impact of cohesion and rural development policies on GDP in 2015 and in 2023. Interestingly, it reveals how Hungary is at the top in 2015, but projected to drop by 2023. It is also noteworthy to point that the study highlights a positive impact on real wages, total factor productivity, and private investment.

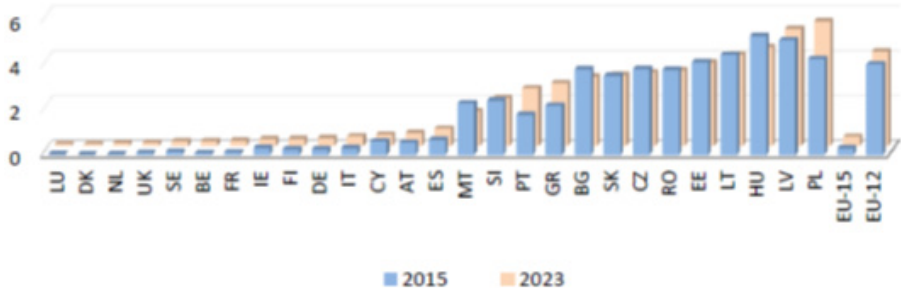


Figure 10: Impacts on GDP of cohesion and rural development policies in Member States, 2015 and 2023 (percentage deviation with respect to baseline).

Source: Commission Staff Working Document Ex post evaluation of the ERDF and Cohesion Fund 2007-13 SWD(2016) 318 final.

With regards to GDP growth, data show that in 2005 and 2006, Hungary had relatively high growth rates of 4.4% and 3.9% respectively. However, due to the economic crisis of 2009, GDP growth was badly affected in a similar pattern comparable to the whole EU28. Towards the end of the 2007-2013 programming period, the pace of economic growth picked up significantly, peaking in 2014 and maintaining a relatively strong and stable growth rate in 2015 and 2016.

64 EC Woring Paper WP 05/2017 (2017) The impact of cohesion and rural development policies 2007-2013: model simulations with quest III

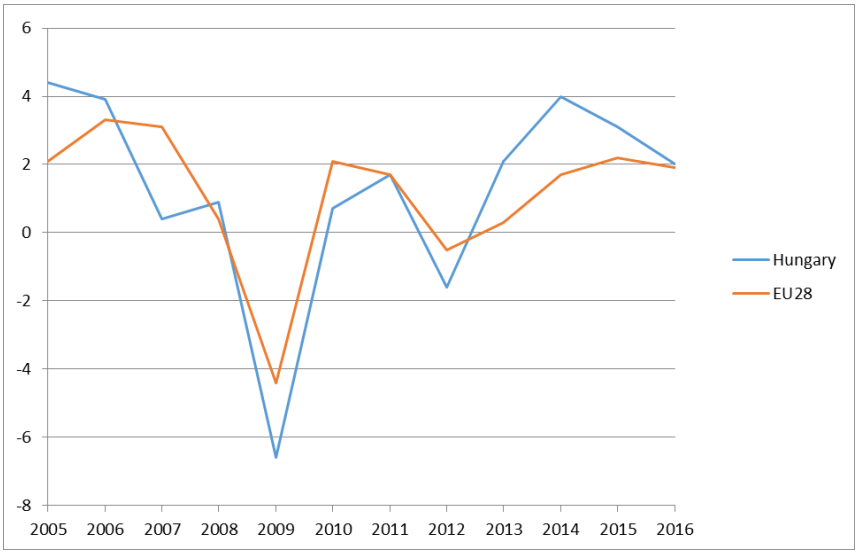


Figure 11: Real GDP Growth rate (%).
Source: Eurostat.

A similar pattern to GDP growth emerges when examining the employment rates from the data. Unemployment soared as a result of the crisis, and dropped in 2009. Afterwards, the indicator improved significantly towards the mid 2010s, just as the end of the programming period approached.

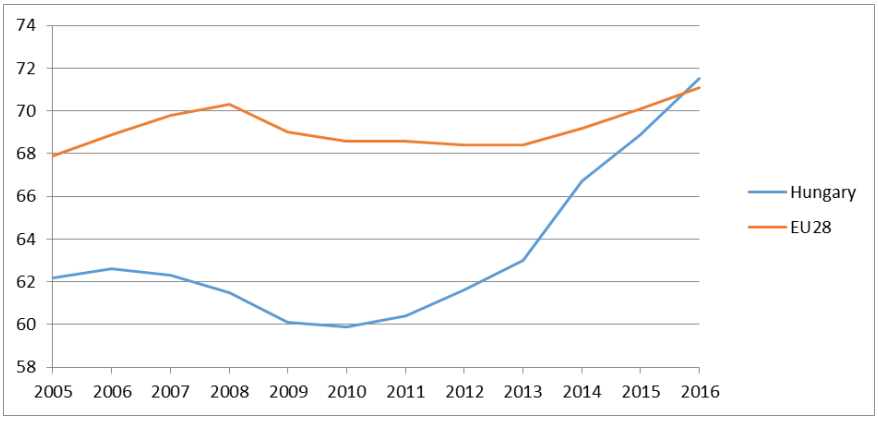


Figure 12: Employment rate (%) 20 to 64 year olds.
Source: Eurostat.

Taking into account the effects resulting from the evaluations, and looking at the real figures of GDP growth and employment rates, the data suggest that without EU funds these rates would be much lower. A study carried out by KPMG for the Hungarian government, analysed the impact of funds on the Hungarian economy specifically. The study found that spending on every priority, with the exception of ICTs, has had an impact on GDP, production, consumption, and investments. The biggest impact on GDP was caused by support given to transport infrastructure, while the subsidies provided to farmers had the second largest impact. Also of significance, grants given to enterprises did not have a huge impact on the Hungarian economy, although loans sourced from EU funds had a clear positive impact as illustrated in Figure 13 (KPMG, 2017).

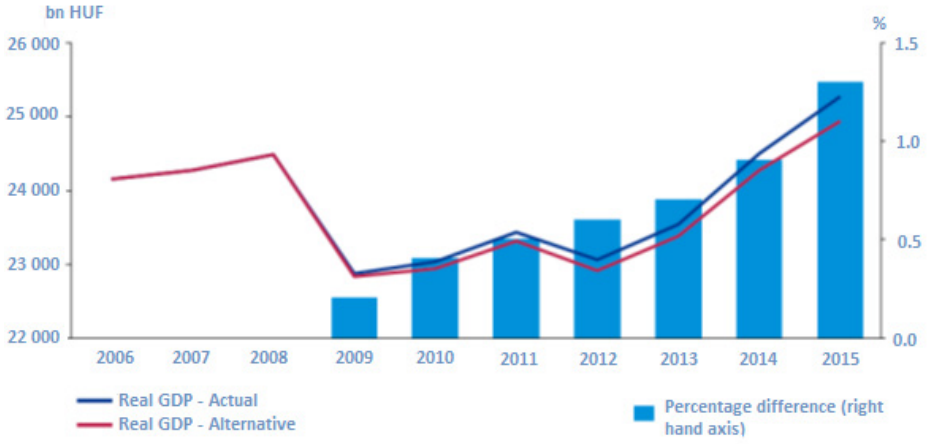


Figure 13: Social Infrastructure: trends in GDP.
Source: KPMG 2017, p. 347 (authors' translation).

It is important to notice that in Hungary without EU funds the state deficit would be always higher than 3% and the debt instead of reduction would be increased to 84% of the GDP. The EU funds also helped the fiscal stability with exchange of the Euro to Hungarian forint.

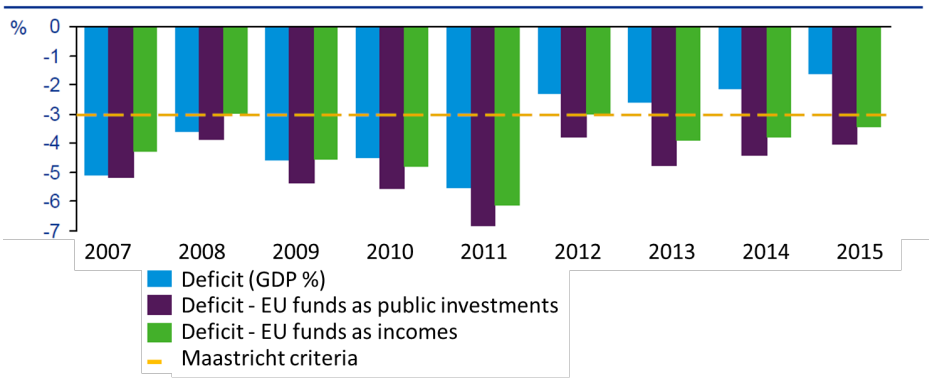


Figure 14: Impact of EU funds on the Hungarian budget.
Source: KPMG 2017.

2.5 Conclusion

Following initial difficulties, Hungary managed to develop an administration dealing with EU funds. Fundamental reorganizations have had negative effects on the system. High staff turnover remain a problem. Significant efforts were made to simplify the domestic legislative framework but remain quite complex, needing frequent amendments that ultimately lead to uncertainty. Therefore, more effort is needed to improve certainty and usability of the system.

Coping with the economic crisis has been a huge challenge. During the first half of the programming period, Central and Eastern European countries were trying to recover from the economic downturn. In effect, by looking at patterns in the economic data without substantial analysis, the effects of the use of cohesion policy funds are hardly visible. Some in-depth economic analysis on the other hand, brought to light its impact: without the cohesion sources, the Hungarian economic growth rates would be much lower (Nyikos, 2013b).

For the 2014-2020 programming period, plenty of funds are made available for Hungary. Although a welcomed development, the use of this fairly significant amount, as a financial instrument, is yet to be analysed. Hungary continues to have a very large amount to spend, which, if used effectively, can no doubt revitalize the economy and increase productivity. This will, however, depend on a number of factors: Maintaining and improving administrative capacities is a key factor. Reiterating from previous sections, there is a strong correlation between administrative capacities and the effectiveness of EU funds. Hungary has a functioning institutional setup. However, there is a risk that after general elections—even though the former governing party won—reorganization of the government and institutional changes will follow. It

will thus be essential to have some stability in the implementation system and even increase the level and quality of human resources through proper training and reduction of staff turnover.

As indicated by some authors, for the post-2013 period, very strict rules were put in place for the use of cohesion policy funds with ex-ante and ex-post conditionalities, milestones, strict payment conditions, and a performance reserve (Nyikos, 2013a: 42). Legislation at both EU and national level remains very complex. Besides the strict and complicated cohesion policy, legal framework member states also have to comply with other sets of rules, such as state aid and public procurement. Non-compliance can lead to financial corrections and obligation to repay state aid. Therefore, focusing on simplification will be essential for the administration to be able to cope with the legislative framework and be able to strike the right balance between following the rules, effective and efficient selection, and implementation of projects.

Success will also depend, to an extent, on the approach of the Government towards the use of funds. If at any stage of implementation there is pressure to use as much of the funds as possible in a relatively short time, then there is a threat to the quality of projects. So far, the quick disbursement of the funds seems to be a high priority. Unfortunately, there are issues with this in terms of what effect it will have on quality. In addition, it will be important for the implementation process to be free from all sorts of corruption. Selection of beneficiaries on the basis of personal connections and deliberate overestimation of certain expenditures should be avoided.

It is also likely that the use of financial instruments will be the norm rather than the exception in the next programming period. This means that Hungary should gain as much experience as possible in the use of financial instruments to draw the necessary conclusions. Making more use of the potential-leverage effect of financial instruments will ensure higher levels of economic development. In any case, early preparation for the next programming period is key for success. Hungary should prepare its administration as early as possible for the new legislative framework. Its experience in using financial instruments will be critical for the upcoming era.

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3 Effects of EU-Funds on Territorial Cohesion - Public and Private Resources for Regional Development in the Least-Developed, Most Deprived Micro-Regions in Hungary

Judit Kalman[65]

3.1 Introduction

Traditionally, development policy has double orientations directed towards economic growth enhancement and/or a care for social, territorial, and economic inequalities across and within countries simultaneously. However, managing this trade-off is challenging throughout the world, especially during, and after, austerity times. Results of the New Economic Geography literature (Krugman, 1991; Fujita et al., 2001; Puga, 2002) underline such trade-off—i.e. it is uncertain whether or not concentrating on diminishing regional disparities itself could bring convergence, or if growing regions, development poles, and development policy assistance might bring better results. Within the EU, and in different common policy areas, there are mixed goals, as for example: cohesion policy, with its former convergence focus, versus EU2020 and Lisbon goals of competitiveness and employment integration of these two. That is, the "lisbonization of cohesion policy" is a major feature of the current 2014-2020 EU framework period. But such trade-offs are also visible in the diminishing regional concentration of cohesion policy—or the introduction of transitioning regions and the funding that is given for developed regions. This chapter is assessing the success of allocating extra-resources to backward, deprived regions within a country and compares EU funding with national public resources for investment as well as private sector investment activities among the least developed, most deprived micro-regions in Hungary. What is the spatial pattern of these three different resources? What drives development in these backward areas? The initial hypothesis is that available development policy funds are minor compared to private (business) investments or state budgetary resources, hence only additional role can be expected. Yet, in least developed, economically depressed and poor areas the private sector is very weak, thus here development policy is expected to have a major role.

In the context of Hungary, the same above trade-off applies. That is, notwithstanding the major priority of the country's overall convergence towards EU

65 Hungarian Academy of Sciences, Centre for Economic and Regional Studies, Institute of Economics. Correspondence: judit.kalman@krtk.mta.hu

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levels and efficient funds absorption goals, which lead to higher funding allocated for more advantaged prosperous regions[66]. Hungarian development policy also considers transforming areas that are least developed into dynamic areas as an important part of its goals. Even so, it remains secondary, showing up among targets and priorities within policy documents. Official development policy recognizes the problems of disadvantaged (micro-)regions and has at least some intentions to tackle them—even before EU accession, the National Development Concept adopted some cohesion-like features dealing with within-country regional disparities and caring for lagging regions (Horváth, 2001). It later developed a methodology for a complex index, identifying the most disadvantaged ones before putting them into government decrees and Parliament decisions on subsidization[67]. Indeed, some extra funding has been provided for these disadvantaged areas from various sources[68]. However, the duality of development policy persisted. Meanwhile the structural problems caused by the economic and financial crisis rendered it as secondary to other economic policy goals in Hungary. Moreover, given the availability of EU Cohesion Funds, the more advantaged, more prosperous, better endowed, and growing regions managed to absorb larger funds. All of these processes point to cumulated disadvantages that lagging regions face in terms of regional growth prospects.

National budgetary resources for development purposes have gradually shrunk, due to EU Cohesion funds already in pre-crisis years (**Figure 1**). As illustrated in Figure 1, former national decentralized regional development subsidies (TEKI, CEDE) had completely disappeared from the state budget. Since 2010, a 0.9-1.5 bn HUF amount was budgeted as regional development allocation in the state budget. But by 2015, even this fund ceased to exist. The reason was mostly a result of the huge amounts of EU Cohesion Funding received, just like in other new member states. For the entire EU budget period of 2007-2013, Hungary received 24.92bn EUR from cohesion policy, which, after deducting the country's contribution to EU budget, still corresponds to 2.5% of Hungarian GDP produced in the same period. Despite additionality principles, regional development or territorial cohesion is entirely financed by EU resources in Hungary today. Such crowding out of national development policy by EU Cohesion Funds happened similarly in several other EU member states (Grosse, 2006).

66 Where all but the central region being under the 75% EU GDP threshold.

67 e.g. 67/2007. (VI. 28.) Parliament Decree

68 See e.g. a report compiled by the National Ministry of Economy in 2009 http://www.vati.hu/files/sharedUploads/docs/teruletfejlesztes/hazai_tfejl_tam_19962008.pdf

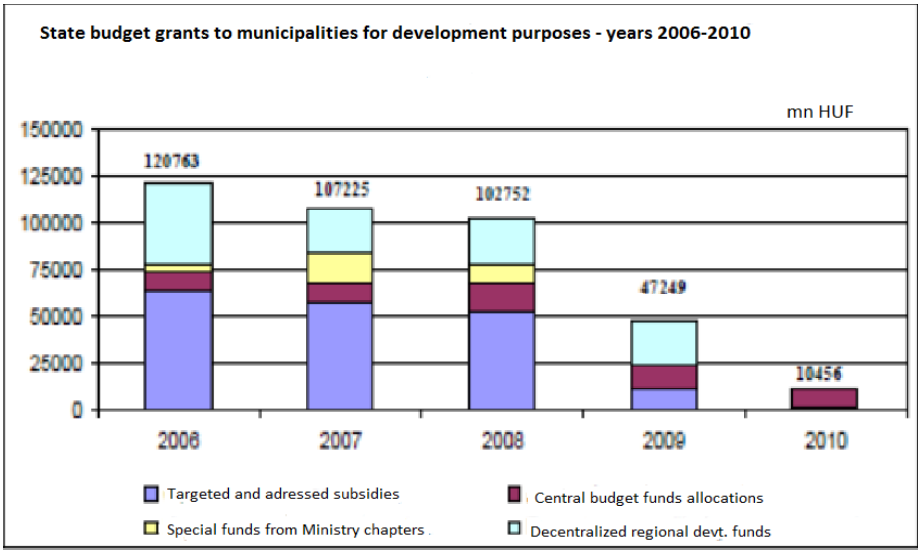


Figure 1: Shrinking national budgetary resources for regional development purposes in 2006-2010. *Source: Hungarian State Treasury 2011. Report on the system of local government development grants.*

Turning the focus onto the least developed (most depressed) areas highlights how they are characterized by, not only low economic performance and a lack of employment opportunities compounded by social problems (low standards of living, outmigration of educated population), but also by weak absorption capacities for development funds. Recognizing these problems, starting from 2009-2010, a special program was designed to target the 33 least developed micro-regions (LAU1, formerly NUTS4) of Hungary within EU Structural Funds allocation This in turn, forced the prioritization and extra-funding for projects coming from these areas. This study assesses the success of allocating extra-resources to these disadvantaged micro-regions and takes stock of, and compares, EU funding with national resources for investment, as well as private investment flows into such lagging areas. Its primary novelty is relying on business financial data for a better estimation of private investment activities and not just on the use of registered number of businesses or other aggregate investment data utilized in previous studies. This research also explores the spatial scale all the way to the micro-region level (LAU1/NUTS4).

3.2 Research Question & Hypotheses

The questions this paper answers are as follows: 1) What type and magnitude of private/public (national and EU) regional development resources do these least

developed (depressed) micro-regions have access to in Hungary? 2) What is the spatial pattern of these three different resources (private/natl./EU)? 3) Have the least developed micro-regions managed to absorb more EU funds due to the special program within Hungarian cohesion policy interventions? Finally, 4) what drives development in such areas?

In assessing the role of development policy in the context of development potential of these least developed micro-regions, our initial hypothesis is that, under normal circumstances, in any region available, development-policy funds are minor compared to private (business) investment flows or state budgetary resources. Hence, only an additional role can be expected of them in the development potential of a region or micro-region. A related hypothesis predicts that without any special targeting, fund-absorption capacity (measured by per-capita EU-grants allocations) is lower than average among the least-developed micro-regions. This is for various reasons, all of which lead to further under-development.

Yet, in the least developed, economically-depressed, and poor areas the private sector is very weak, whereby barely any investments happen. As such, we can expect development policy to have a more major role in this area (comparable to that of private sector investments)—that is, in their growth as well as in transformation of their social and economic structures. In other words, development funds targeted with a special regional focus can bring about significant socio-economic changes. However, the possibility of real convergence, of such areas into the broader regions, remains a separate issue; and currently, the present economic situation and policy trends do not have this consideration within their periphery.

Another contribution to knowledge that this research has to offer is in the use of micro-regional (LAU1-NUTS4) and municipal level data. The sparsely available extent literature, dealing with this subject matter, conventionally only used additional aggregated county-wise data, often provided by the National Statistics Office of Hungary. Collection, cleaning, and editing of data—especially private sector data—at the micro-regional level, had several challenges of its own, demanding a substantial amount of work.

3.3 State of the Art in the Literature

Extended public finance literature (Musgrave, 1975; Oates, 1991; Aschauer, 1989) has seen a growing trend in addressing issues pertaining to how to allocate public funds in an efficient and effective, yet equitable manner, for some time. This includes the design of tax policy or welfare systems among other things for example. Such issues have challenges that are well described in the literature during normal operation too, but especially under crisis and austerity times. For the sub-national level, the extent and mode of fiscal decentralization, and different sub-national governance models, can bring various types and degrees of local autonomy, depending on the

set-up.[69] Yet the literature has mostly focused on the causes of degrees and diversity of fiscal decentralization , incentives and behaviour of governments at different levels and with its economic impacts on growth (Davoodi & Zhou, 1998; Martínez-Vázquez & Mcnab, 2003). However, the deeper and more complex issues of political decentralization and its linkages to growth have been overlooked despite a trend of devolution across the world. Linking it with the issues of regional development, Ezcurre-Rodriguez-Pose (2013) finds no statistical relationship between political decentralization and economic growth, regardless of how political decentralization is measured with different indices and ambiguities. Even so, this is not to say that there are not somewhat positive results for the link between decentralization and increasing regional disparities.

The trade-off between equity and efficiency is especially highlighted in the field of development policy, where opposing goals/policy tools are often used (Brakman et al., 2005; Bachtler et al., 2003; Martin, 2005). Such mixed policies are present in the EU development policy scene as well—both at EU and national levels. This begs the following questions: Should the concentration be on infrastructure or human resources? Which of these will better boost an inclusive growth and give more funds to businesses or to the public sector? How? What other aspects of development should be prioritized and measured? By which best indicators?

With this into consideration, mixed-policy goals are noticeable—for example, the co-existence of growth-oriented Lisbon agenda and EU2020 goals, as well as the care for lagging regions (cohesion policy). Despite this, cohesion policy and its reforms in the recent EU cycles ("lisbonization") seem to disregard the trade-off between equity and efficiency as non-existent, or at least easy to handle, and that it is possible to maximize growth and overall convergence at the same time.

Neoclassic regional growth models (e.g. Barro-Sala-I-Martin, 1992) have acknowledged that economic activity is unevenly distributed across space due to comparative advantages, emphasising processes of convergence based on trends in post-war Europe and the US until the 1980s. Additionally, in early development economics, there was much talk about circular and cumulative economic processes, and later about 'convergence clubs' (Myrdal, 1957; Hirschmann, 1958; Quah, 1996).

However, since the 1990s, a number of studies have recognized widening within-country regional disparities in GDP per capita or in employment terms (Puga-Venables, 1999; Martin, 2005; Puga, 2002; Rodríguez-Pose, 1999) despite international convergence trends. With ever-larger economic integration, especially within Europe, core regions are benefitting while periphery regions seem to suffer[70].

69 See indices created by Ebel-Yilmaz (2002), Rodden and Wibbels (2002), Treisman (2002), Schakel (2008), and Hooghe et al. (2010).

70 Acknowledging this and somewhat counter-balancing for it being the very core underlying 'reason d'etre' for EU cohesion policy.

From the perspective of regional endowments and growth potential, core regions with high levels of skilled labour and access to capital and few institutional barriers to adopting new technologies, are usually places where innovation and thus economic growth happens; whereas low income periphery regions, characterized by high concentrations of unskilled labour, limited access to capital and low productivity, substantial cultural and institutional barriers generally remain far from it. New Economic Geography (Krugman, 1991; Fujita et al., 2001; Puga, 2002) emphasizes focusing on growth and to concentrate economic activity and funding to faster developing hubs of the economy (usually the core regions). This would then help lift the rest of the economy along with the rapidly developing hubs. Other models, built from endogenous growth theory put the focus on innovation (Romer, 1986; Grossman & Helpman, 1991), and the distance of territories from the technological frontier. They emphasize change management, adaptation efficiency, and learning processes.

Nonetheless, recent literature on regional economic development seems to have reached a consensus that spatial proximity, density, and localization should be put in the wider context of economic globalization (e.g., Crescenzi, Nathan, & Rodríguez-Pose, 2016). That is, local and regional development processes do not solely depend on locally available human capital and production assets anymore, and there are different non-spatial linkages such as social-, institutional-, knowledge-overflow that play complementary or even substituting roles (Boschma, 2005; Boschma, 2015; Crescenzi et al., 2016; D'Este, Guy & Iammarino, 2013; Javorcik, 2004). Ostensibly, this means that FDI flows and multi-national companies play significant roles in these 'glocalization' processes. The emerging literature on the interdependence of corporate and geographical connections and linkages relates the concept of connectivity with regional economic development (Crescenzi & Rodríguez-Pose, 2011; Baldwin, 2011). What all of these different strands of literature have in common is that human capital and training knowledge transmission networks are of utmost importance to innovation and thus regional development.

There is yet another school of thought emphasizing that the persistence of institutional differences across regions, despite economic integration, is a key in maintaining regional disparities, since institutions shape the way the economy can use available resources or absorb new ones. Serious institutional weaknesses and so on, keep a regional economy away from innovation, moving up on the technological frontier and thus growth (Persson et al., 1997; Grossman & Helpman, 2001; Acemoglu, 2006; Acemoglu-Johnson, 2006; Rodriguez-Pose 1999).

Regarding EU cohesion policy and its effects on regional growth, the bulk of the literature deals with convergence analyses and the funds' impact on these (Becker, Egger & Von Ehrlich, 2008; Cappelen et al., 2003; Ederveen, de Groot, & Nahuis, 2006; Mohl & Hagen, 2010; Pellegrini et al., 2013; Varga & Veld, 2011; Dall'erba & Le Gallo, 2008). Regional socio-economic conditions are found to be a positive conditioning factor for policy impacts. That is, where demographics, productive structure, the labour market, regional innovative capacity, and infrastructural endowment are

more favourable, the relationship between EU regional policy funding and regional growth is stronger (Crescenzi & Giua, 2014). Fratesi and Perucca (2014) analysed the relationship between structural characteristics (accessibility, public goods, stock of private capital, social capital, human capital, urban/rural nature) of the recipient regions of funds and the impact of the EU financial support on economic growth in NUTS 3 regions, and found a positive relationship. The true policy question therefore, is whether or not, and how active policy intervention can improve these capacities and structural characteristics in lagging periphery type regions, and which of these are really reacting to, and can get improved by, policy intervention. The current idea of reducing regional disparities in a growth-enhancing way calls for a development of capacities, both hard and soft (EC, 2014).

The cohesion policy literature also emphasizes the strong role institutions play in both more effective funds absorption and regional growth in general. Bachtler and McMaster (2007) found that EU Structural Funds lead to stronger regionalisation in the EU8 member states through the building of regional structures and competences, which are necessary to absorb funds. The connection between government effectiveness and cohesion policy funding absorption is also recognised in Ederveen, de Groot, and Nahuis (2006), Tosun (2013), and the European Commission–DG Regional and Urban Policy (2014). Charron, Dijkstra, and Lapuente (2014a; 2014b) created the regional government quality index that is proven to be highly correlated with sub-national levels of socio-economic development and levels of social trust. It has since been used by a number of research papers. Farole et al. (2011) also emphasize institutions as the key determinant of a country or region's growth path, and warn that development policies are often mis-implemented and prone to elite capture and rent-seeking. For lagging periphery regions, focusing on human capital and capacity development is of utmost importance for enhancing local institutions and thus absorption and growth. With regard to new member states from Central and Eastern Europe, there is increased attention to their institutional structure, government (in)effectiveness, transparency, political influence and corruption issues centring on EU funds absorption and effective use (Tosun, 2013; Farole et al., 2011; Medve-Balint, 2017; Medve-Balint, 2018; Kersan et al., 2017; Grusevaja-Pusch, 2011; Kalman, 2002; Kalman, 2011).

Still substantial gaps or disagreements remain in the literature, especially on what happens economically within regions and the needed local economic and structural conditions or the design of the right set of public policies to boost regional development in different type of core, periphery, and lagging regions. Inflows/outflows of private sector investment or FDI and the relative socio-economic position of sub-national regions within the EU are of utmost interest and policy importance for overall EU2020 growth goals and EU cohesion policy. This chapter is a small attempt to contribute to the literature and fulfil such need by taking stock of private, public, and EU origin investment flows to sub-national regions (at the NUTS4 or LAU1 level) at different level of development within Hungary. It attempts to take a look at patterns

of allocations and flow of funds. It does not deal with the efficient use of such funds and their economic effects on the micro-regions. Such an examination is a task for future research when longer periods and more data become available.

3.4 Institutional Background

3.4.1 Growing Importance & Governance of EU Structural Funds in Hungary

Providing a steadily growing flow of funds ever since EU accession in 2004, but noticeably after the 2008 crisis, EU Structural Funds became a major source of public investment in cohesion countries—especially in the CEEs (over 50% for all, ca.74% for Hungary), providing a good counter-cyclical tool for these countries (**Figure 2**). In the subsequent EU cycle of 2014-2020, the order of countries has changed somewhat, with Portugal becoming the first with 80% of public investment financed from ESIF, but still substantial ratios (above 50%) of EU funding for public investment in the CEE member states as well. It is then followed by some southern cohesion countries also covered for 20-40%. Hence, the involvement of not only available public and private investment resources, but also differentiating between national and EU origin funds, are both critical in the analysis of regional resource disparities.

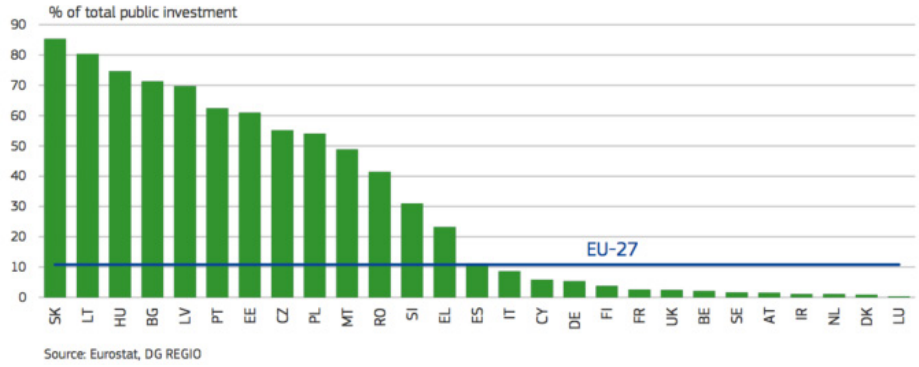


Figure 2: EU has become a major source of public investment after crisis in CEE (2011-13).

In the 2007-2013 EU cycle, at the period of analysis (due to the special program for disadvantaged micro-regions taking place from 2009), the National Development Agency was the central institution for the operation of EU cohesion policy in Hungary, established by the government in 2006. This was then followed by yet another institutional change from 2014 onwards. Its tasks included coordination of the planning and programming, including the drafting of the national development

plan, and the operational programs and action plans. It became the central management authority, managing tasks such as: announcement of calls, approval of the invitations, the framework contracts of support, as well as setting up evaluation committees laying the groundwork for the selection of eligible projects. The agency also managed, monitored, and assessed the work of cooperating organizations carrying out the actual tendering, contracting and disbursement, reported annually on program progress to the parliament. It bore responsibility for communication and public relations about the entire development. Oversight was provided by the Ministry for National Development up until the end of 2013, and then later by the Prime Minister's Office.

Still, the government handled strategic decisions, such as the approval of the national development plan and its operational programs, 2-year action plans, as well as submitting them to the European Commission. Such central management was always characteristic to Hungarian development policy across various governments (Pálné et. al., 2004; Pálné, 2013). It also usually decides on support for special projects/high-value developments, which are typically those with a budget of over HUF 5 billion/EUR 15 mn. The certifying authority in disbursements was the Ministry of Finance, whilst operational compliance and financial monitoring was conducted by the Government Audit Office, the State Audit Office, and the inspectors of the European Commission.

From 2014 onwards, the institutional arrangement for EU funds allocation in Hungary has been changed for the new 2014-2020 EU budgetary cycle: the former role of the National Development Agency, as central coordinating body for development policy planning and EU funds allocation, has been taken over by the Prime Minister's Office—i.e. the system went through strong centralization. At the same time, specific ministries became responsible for the planning and implementation of Operative Programmes, which on one hand, allowed for better alignment with sectorial public policy plans, but on the other, meant a very fragmented implementation and a secondary role of development policy. Efficiency and effectiveness of these new governance structures is yet to be seen. Such centralization helps better total national absorption of available funds, albeit cost-efficiency is not the same as true results. The effective, growth, and social-inclusion enhancing use of EU funds remains questionable and a task of later evaluations and future research[71].

71 However, such centralized management of EU funds is characteristic to many other cohesion countries and happened with the silent consent of the European Commission, which also realized the weak administrative capacities of the middle-tier in new member states (Bailey & De Propris, 2004). Thus, in fact, cohesion policy allocation brought about concentration of power and centralized management instead of more regionalization and devolution in most new member states (Bruszt, 2008; Ferry & McMaster, 2013).

3.4.2 Dealing with Regional Disparities in Hungarian Development Policy: The Appearance of The Complex Program in 2009

Throughout the 2000s, an external-convergence-internal-divergence process characterized Hungary, with convergence driven by the central region of the country (containing the capital city Budapest and its agglomeration), yet a serious increase in internal territorial inequalities (**Figure 3**).

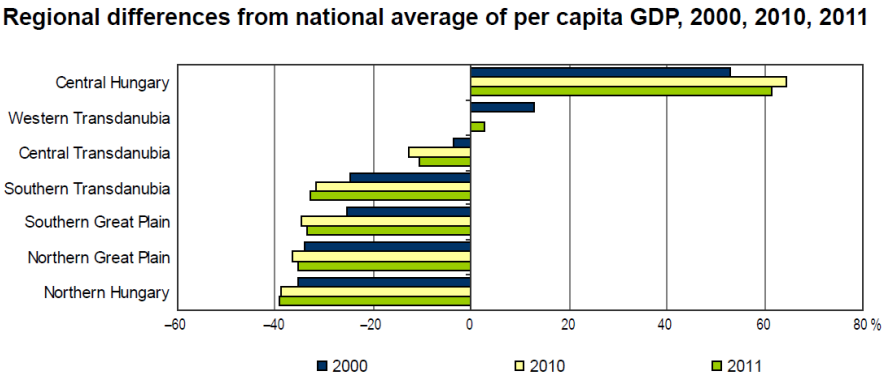


Figure 3: Widening gaps of regional differences in per capita GDP in HU regions 2000, 2010, and 2011. *Source: own calculations based on CSO Hungary data.*

These development gaps are especially visible if measured not on the regional (NUTS 2) level but among micro-regions (NUTS 4/LAU 1), where there is considerable and growing variance in socioeconomic indicators, with unsustainable loss of economic base, strong outmigration in several of them, and with differences as much as 20 times across micro regional development levels east and west of the country, especially between centre and eastern and southern peripheries (**Figure 4**, on the development level of all 174 HU micro-regions in 2007, along the complex development indicator applied by Central Statistical Office of Hungary).

Recognizing these issues, the following national objectives of territorial cohesion were identified: (i) the dimension of European convergence of the country overall; (ii) mitigation of internal inequalities (at regional and micro-regional levels); (iii) the need for territorial harmony in developments, and (iv) the need for territorial synergies in developments (co-operation between regions and sectors of the economy). Development needs were also reflected by the fact that six of the seven HU regions were identified as objective 1 regions, under EU level GDP averages, and thus eligible for ESIF. The central region however, comprising capital city Budapest and its agglomeration, became transitory "phasing-in" regions, first entitled for similar rates of support as other regions, but significantly smaller rates from 2011 onwards. Hence,

contrary to earlier ranking of within-country disparities by problems and needs, and some care for the lagging regions within development-targeted funds, this situation created a level-playing field for all regions of the country, all competing for available cohesion funds with the same conditions (Bachtler & Downes, 2000).

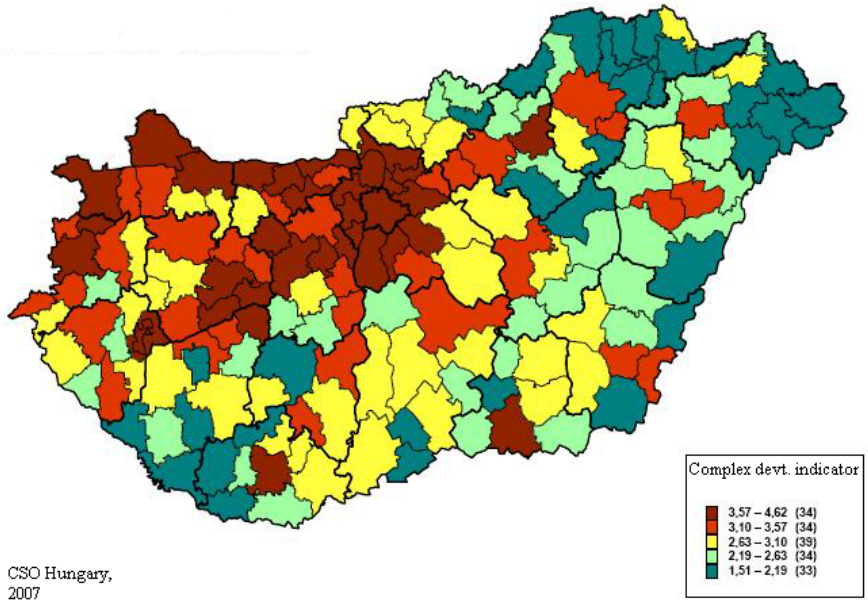


Figure 4: Development level of 174 Hungarian micro-regions in 2007 along the complex development indicator applied by CSO.

Thus despite the presence of some regional cohesion objectives in subsequent development plans (from 2004 EU Accession onwards), the least depressed areas of Hungary could hardly reach and receive resources from the huge pool of EU Structural Funds. More developed parts of the country had much better absorption rates (Hajnal-Medve, 2016; Kalman, 2011; Cartwright-Báthory, 2012,).[72] These happened partly due to regulatory issues and incentives for full and fast total national absorption of funds (with prosperous regions also having better *administrative* and own contribution capacities), and partly due to a restructuring of resource-allocation following the financial and economic crises escalating from 2008. As so, the least developed micro-regions were characterized by not only low economic performance, lack of employment opportunities, social problems (outmigration of skilled population), but

72 Similar results, a better absorption by more prosperous regions, were found for many other new CEE member states by Bloom and Petrova (2013), and by Dąbrowski (2012).

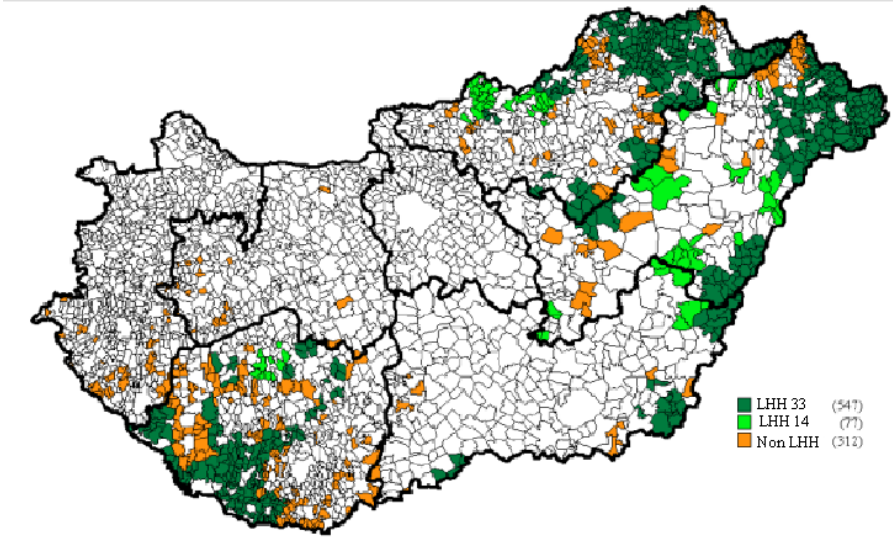
also by a relatively low absorption capacity for development funds (as also shown by the huge differences in magnitudes across least and most developed countries in **Figure 6** and **Table 1** presented in the next section). Even from the absorbed EU funding within micro-regions, it was usually the more developed parts, central settlements, that gained support, and less so the peripheral villages. This exacerbated their disadvantages, and thus more economic integration enhanced within-country regional divergence, as is the case in many other countries.

Recognizing the special problems these least developed areas face, starting from 2009, a special program targeting the 33 most depressed micro-regions of Hungary (often referred to as the LAMR program, or *least advanced micro regions*) was launched within EU cohesion policy allocation by Hungary (**Figure 5**). Its stated goals included stimulating local economy (jobs) and reducing inner social and regional inequalities via infrastructure and human development (health, education, labour market... etc.). This special program had a dedicated support framework (ca.320Mn EUR; minor compared to total amounts, but still something dedicated for lagging areas), which tried to develop both regulatory and operating environment in a positive direction. For example, with extra funds combined from several Operative Programs (regional, social development., social infrastructure) and initiating complex innovative project packages in an iterative way. It aimed at improvement of local development capacities and incitement of collaboration among local actors, between local and central, and among different Operative Programs (funding).

These 33 least developed areas represented ca. 10% of national population, were mainly rural (2/3 without a town above 10 thousand people), mainly peripheral (1/2 on border, 2/3 in border region), mainly with large Roma population (1/3 of national Roma population), packed with an under-educated and low-skilled population and high child poverty[73]. Having its effects and relying on funds across several Operative Programs, the primary tools of territorial focusing within this program were: forcing prioritization in eligibility, extra-points in project-assessment, and increased funding intensity given for projects coming from these depressed areas.

This paper is, on one hand, assessing the success of this policy choice, this special experiment program, where it takes a look at numbers to assess the allocation of extra resources to these least advanced micro-regions had really happened; and, on the other hand, compares regional development resources coming from EU funding with other resources, such as national subsidies for investment as well as private investments.

73 20-30 % of Hungarian children live under the 60% median income at national level at this period.



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Source: Hatranyban videken (ed.Varadi, M.) 2013, p.43

Figure 5: The 33 least developed micro-regions (LHH33, dark green) targeted by the special complex program out of all local areas with severe socioeconomic disadvantages in Hungary (light green, amber).

3.5 Data

For the purposes of our analysis, at first a new micro-region and settlement-based database of funds was built, which represents a new element in the literature and the policy-practice. Previously only county-wise (NUTS 3) sub-national investment data have been published by the National Statistical Office of Hungary. Thus, earlier studies relied only on those. We connect local municipality-level demographic, infrastructure, economic, financial, business accounts and grants data originating from various different sources: for detailed EU grants allocation data the National Development Agency EMIR database, National Statistical Office T-Star data for detailed municipal level socio-economic data, Hungarian State Treasury data on government finances, Bureau van Dijk's Amadeus database for business financial data[74].

74 Due to data access problems with private sector financial data at company level from Hungarian Tax Office, we turned to a second best solution by using the Amadeus database, that is an international business data collection, covering several countries and years, widely used for both business and academic purposes.

After access issues and tedious cleansing of data is aggregated based on the 174 micro-regions structure used in Hungary since 2008[75]. That is, with micro-regions ranked and classified based on the complex micro-regional development statistic created by the National Statistical Office of Hungary. For easier comparability, all financial data is deflated at end of term 2011 prices. Due to reasons of data availability, and to shed light on the 33 LAMR special program introduced in 2009, the empirical analysis focuses on the 2007-2011 period, but also compares results of the 2004-2006 period (former EU budget cycle) with respect to the 33 (47) least developed micro-regions targeted by the special program and/or the 94 less-developed micro-regions, that is the subsequent category of focus by the national policy.

The CSO of Hungary collects investment data only county-wise. Moreover, not separating public and private sector, this data it was not useful for our analysis at micro-regional level. Former studies only used such aggregate data at county level, or mere administrative data of number of registered businesses at municipal level, but not their actual financial data and especially investments of private sector. However, for the purposes of comparing private and public investment flows set out in this exercise, these were insufficient. As such, the decision to turn to Bureau van Dijk's Amadeus international database for business financial data, and calculating private investment from firm level fixed assets data, depended on to the following formula:

Investmentt= fixed assetst – (fixed assetst-1 - depreciation t) >0 (Fixed assets corrected with depreciation)
Equity ratio (equity/total assets)>= 0.25

That is, the analysis only takes positive change in fixed assets as true private investment in a given year, if the firm has enough of its own capital to invest (leverage), not just re-values, its assets for accounting reasons.

3.6 Main Findings

3.6.1 Uneven Distribution: Regional Development Resources in Function of the Cumulative Population

In order to demonstrate the uneven distribution of development resources, a Lorenz-curve type chart was created to show the magnitude and distribution of development

75 At the analysed period, mirco-regions were also used as a planning category, not only serving statistical purposes but also some joint municipal projects also carried out at this level. From 2013, yet another governance change was carried out in Hungary, and the old-new "jaras" category was re-introduced at this territorial level, which however more or less overlaps with micro-regions.

grants from various sources: EU, national state budget or private investment (**Figure 6**). On the x-axis, population is cumulated along the complex development indicator (constructed by HU CSO and used by HU development policy as a major targeting variable). The y-axis shows the proportion of private, state, or EU-funded investment resources.

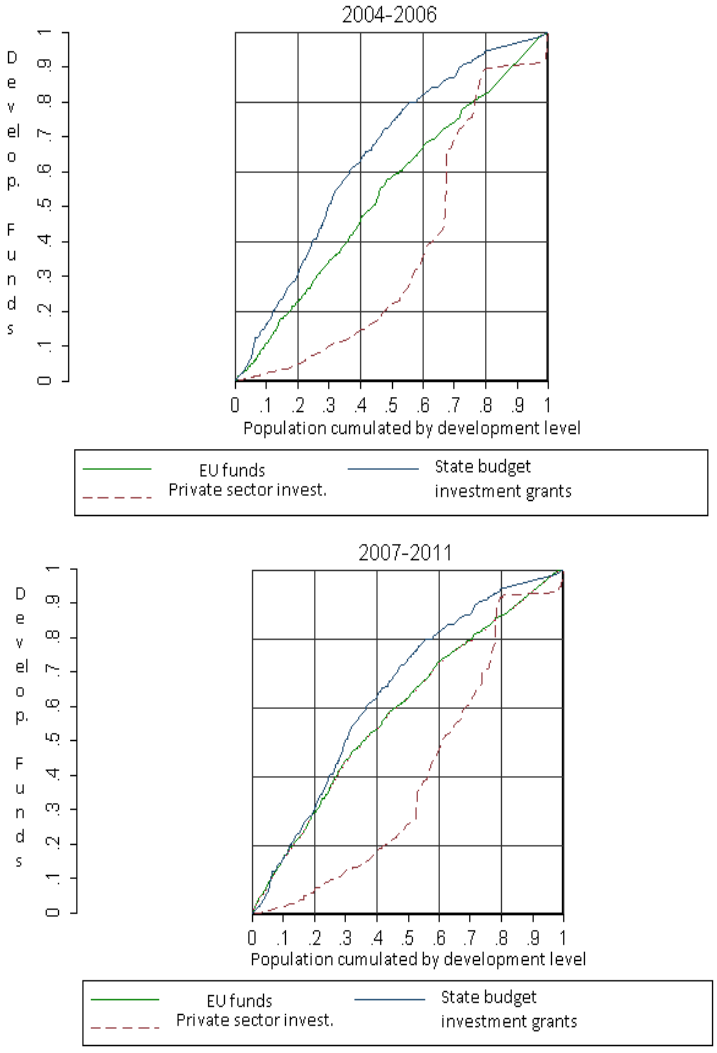

Figure 6. Distribution of different regional development resources 2004-2006 and 2007-11 by population cumulated across development levels.

Source: Own calculations from database.

It is visible, how in the first EU planning period right after accession (2004-2006), EU funds followed almost the straight population-proportional distribution (*the diagonal would mark an absolutely even distribution*); i.e. they are not larger than their proportion even in the least developed areas. The national state budgetary investment grants show a bump above the straight diagonal, marking higher than proportional funding going to the less developed parts, steeply increasing in the lower first two quintiles. At the same time, the distribution of private equity resources follows a completely opposite pattern, with very low proportions in the lower developed quintiles and a very sharp jump in the more developed micro-regions. This pattern is not unique to Hungary, and has long been the concern for economic geography and development policy, that private sector activity and investment is concentrated in more developed areas, contributing to widening gaps between regions. However. the magnitude of the differences is still striking in this case.

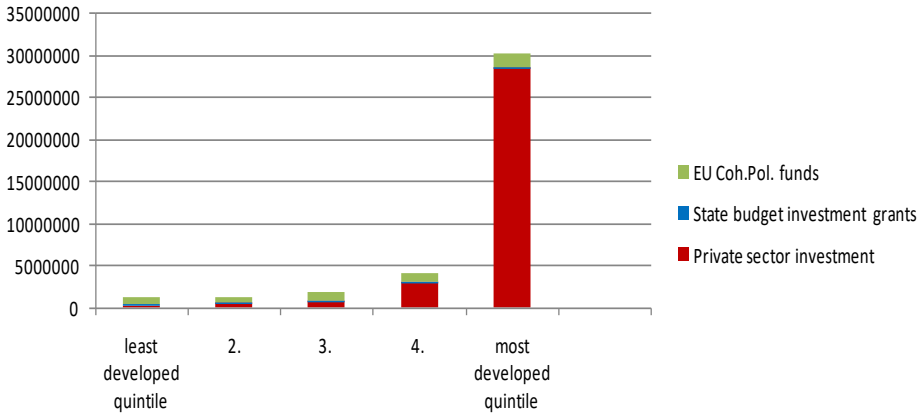

Figure 7: The total sum of development resources in 2007-11 by micro region quintiles (along CSO complex indicator); from lowest to highest developed quintile.

Source: own calculations from database.

As shown in **figure 7**, national state budgetary grants for local government investment are negligible everywhere in these periods. The reason being mostly a crowding out of such national funds by EU cohesion policy funds that were becoming available from 2004 onwards. These EU funds (marked by the colour green in **figure 7**) and the level of their amount was similar for 3rd, 4th, and 5th most developed quintiles of micro-regions. Yet, while this equals half of the total available resources for those middle-range regions in the 3rd quintile, it is just ca.1/10th of all development resources in the upper, most developed quintile, where private sector investment dominates. This highlights marked differences of development potential across micro-regions. At

the same time, this figure once again makes it visible and very clear how the majority (over 95% and large magnitude) of private investment (marked by the colour blue) were realized in the most developed 4th and 5th quintiles of micro-regions.

3.6.2 Opposing Development Patterns Emerge

The special benefits and special treatment offered by the program to the 33 LAMR (extra points and greater proportions of funding; less need for own resources) had some effects, but could not be effective enough on their own. Although 15.65% of all EU funds went to the least developed 33 micro-regions between 2007-2011 (Table1), which is larger than their population proportion (10%), the optimal utilisation of funds is hindered by the fact that there are fewer innovative long-term development projects in these regions, because their absorption capacities are lower, the institutional system and human capacity are also weaker than average. National public investment resources, although much smaller in magnitude, seem to follow similar patterns to EU funds allocation (though allocated through different channels), i.e. not having much compensatory effect.

Table 1: Development Resources in micro regions (NUTS4) of HU. 2007-2011

	EU Cohesion funds (mn HUF)	(%)	Private investment (mn HUF)	(%)	Natl. budget invest. grants (mn HUF)	(%)	Population (%)
More developed	2783997	54.61	32026202	95.82	41278	52.28	68.3
33 LAMR	797551	15.65	260340	0.78	11471	14.53	9.8
14 other LAMR (47)	325678	6.39	203481	0.61	5183	6.56	5.4
47 other underdeveloped mr (94 LAMR)	1190327	23.35	933231	2.79	21030	26.63	16.5

Source: own calculations from database

As hinted by new economic geography and growth theories, more than half of EU origin development funds, and also investment grants from national budgetary sources, were allocated to better developed parts of the country in the analysed period (Table1), focusing on *growth-enhancement investments*, that serve the economic growth and thus overall convergence of Hungary to the rest of the EU. Striking is the fact, however, that during the same time period, 95% of private investment has been realized in these more developed micro-regions, while only less than 1% (!) flowing

into the 33 LAMR—a fact very telling on its own about differences in development potentials and opportunities and the strong regional disparities resulting from market forces alone.

The following **Figure 8** summarizes development resources in per capita terms in the two periods in different micro-regions by development categories used by policymakers in Hungary. One can detect the shrinking size and role of national investment grants as well as the growing (both magnitude and importance of) EU funds in all categories for the period after 2007, when Hungary was indeed one of the major beneficiaries of EU cohesion policy. But what is most apparent is that, while the national average is a development pattern relying mostly on private investment resources and just partially on public funds, in the disadvantaged micro-regions the pattern is the opposite. Here the resources for development are coming from EU funds (red bars), notably larger per capita than the national average. This latter fact reflects the goals of territorial cohesion. However, the lack of private resources for development in these most disadvantaged areas is drawing an opposing development pattern (or rather one of under-development), an almost fully grant-dependent path. This seems inevitable, given the lack of other resources in these regions. However, it is not sustainable in the long term.

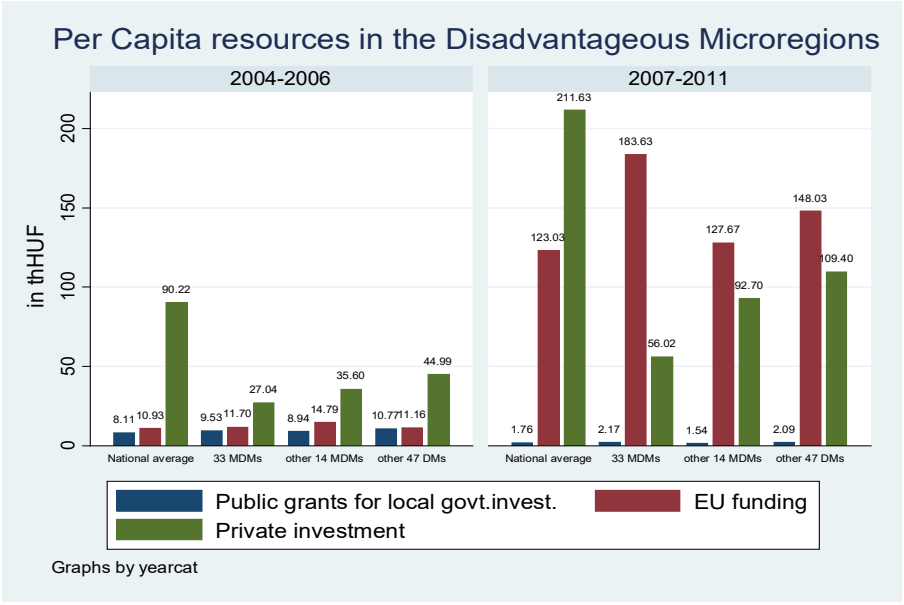

Figure 8: Per capita development resources in the disadvantaged micro-regions.
Source: Own calculations from database.

The LAMR program effect is shown by the fact that although the funds allocated through it represented only ca.15% out of the total EU funds portfolio, the funds paid per capita considerably exceed figures of the 'control group': that of 14 other most disadvantaged micro-regions for whom the program was unavailable (also underdeveloped, but just beyond the cut-off point in the complex development indicator used for selection). The latter can be considered the losers of the program-limit, since they received somewhat larger per capita EU funds than the national average, yet significantly lower than the 33 micro regions involved in the LAMR program, or even less than other, not so well-developed, but not the most depressed micro-regions.

Broken down across different settlement-types (**Figure 9**), the per capita development funds show these opposing development patterns from another angle: micro-regions containing county cities show a typical pattern similar to the national average. Even those countryside micro-regions that do not have a major city as their poles but are not in the least-developed category, have a similar pattern of private resources being highest (though significantly smaller) and somewhat larger EU funds per capita than MRs with county cities. Yet the least advantaged 33 MRs—that were the focus of the special program—indeed show an opposite pattern: small, private, and highest EU origin development resources. Hence the conclusion that in general, micro-regions and cities develop mainly due to private sector investment activity, where public grants play only additional role, while the least developed are characterized by huge grant-dependence

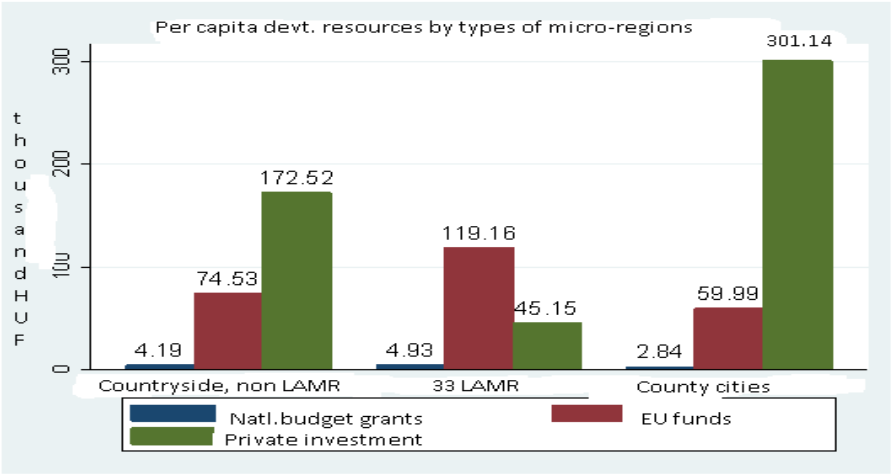

Figure 9: Per capita development resources by micro-regions with different settlement types.
Source: Own calculations from database.

3.6.3 Spatial Patterns Confirm Opposing Development Trends

If we put the above results on maps, the opposing development patterns are even more visible in terms of geographic location as well (**Figure 10**).

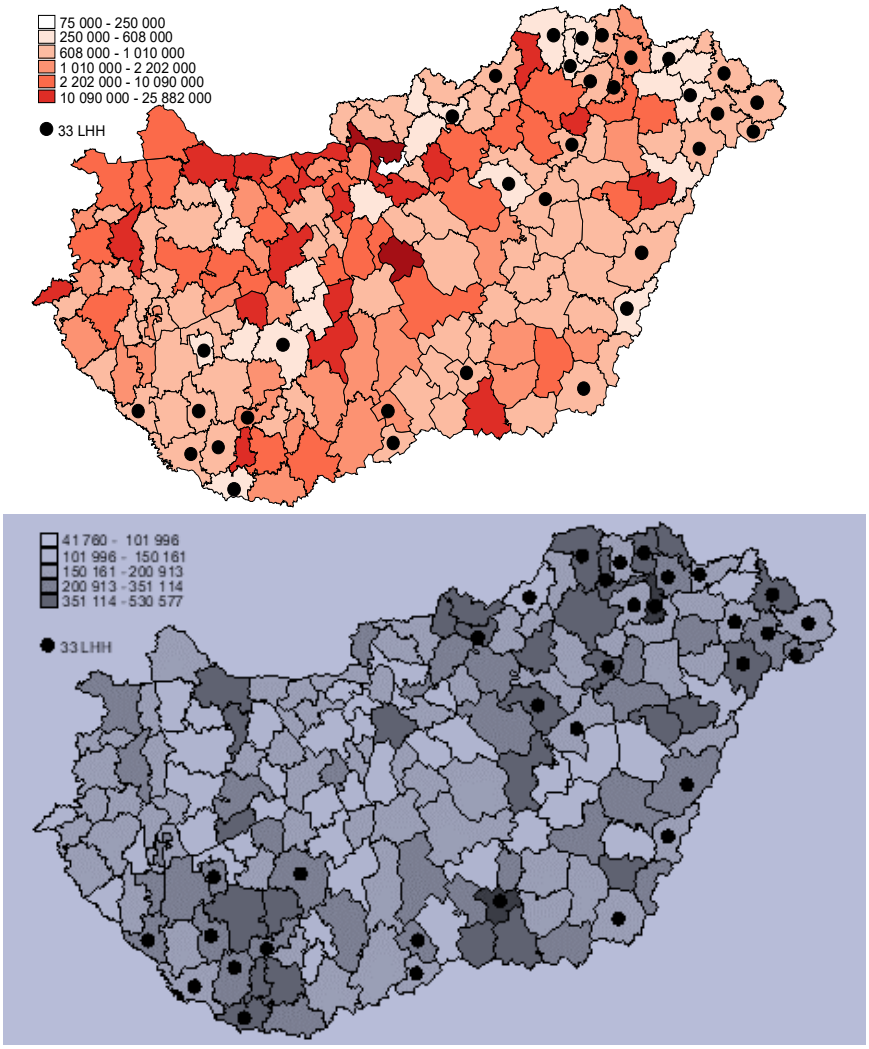

Figure 10: Per capita private investment (upper)) and per capita (lower) EU funds received by micro-regions (NUTS4) of Hungary, 2007-2011. Darker areas show higher per capita amounts, dots signal the 33 least advantaged micro-regions affected by the LAMR program.
Source: Own calculations based on database.

It should be noted that per capita amounts in the LAMR micro-regions are showing a somewhat upward biased picture, due to the low population of these areas. However, if we compare total and per capita amounts of EU funds granted and paid for different micro-regions in Hungary (**Figure 11**), it becomes obvious that the largest amount in total magnitude went to the more central regions and/or growth poles of the country, as shown by the numbers in the previous figures.

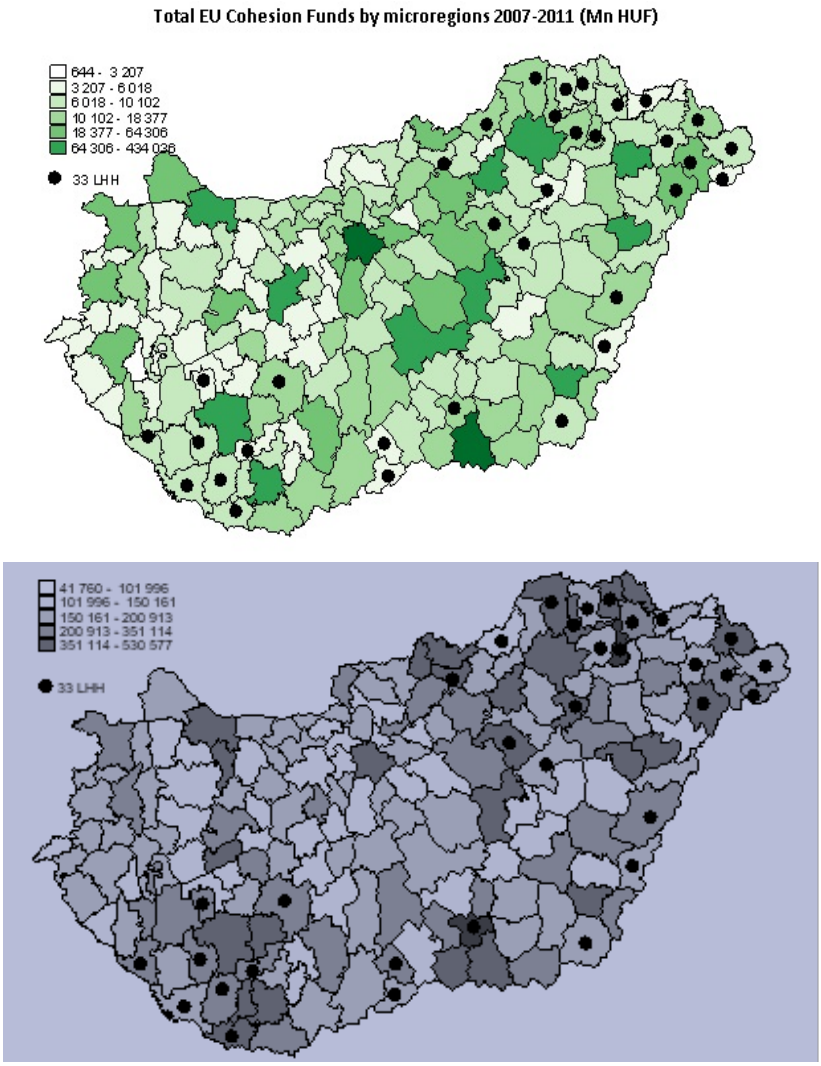

Figure 11: Total (upper) and per capita (lower) amounts of EU funds received by different micro-regions in Hungary, 2007-2011.
Source: Own calculations based on database.

This is dictated by the logic of external convergence (of Hungary as a whole), by Lisbon goals of growth and employment orientation, competitiveness... etc. Internal convergence within Hungary was somewhat (and solely) served by EU-funds allocation, but, as noted, the quality of its absorption could be improved. The analysis of what specific goals these resources went for, and the usefulness/socioeconomic development contribution of those goes beyond the scope of this paper, but is definitely worth consideration in future work.

3.7 Conclusions & Policy Implications

Apart from describing the differences in private and public investment activities, flow of investment funds between well-off, more developed areas and the most deprived, and least developed ones, this chapter highlights the growing importance of governmental budgetary resources (be it national, or EU) for the development potentials of deprived areas, since very small amounts of private investment get realized there. It raises awareness of the deep structural problems facing the least developed micro-regions, as well as how national and EU resources have tried and managed to tackle these issues. However, especially under an austerity economic environment, but during periods of growth too, governments need to think wisely about how to allocate public funds in an efficient and effective, yet equitable manner. Indeed the conflict between efficiency and convergence does exist in a Europe that is to remain competitive and growing in the integrated world economy, yet faced with stubborn regional disparities that stay and even grow within EU and within countries. Finding the right sources of growth for different types of core and periphery regions, balance on the edge of efficiency, and effectiveness yet care for equity, is not an easy task for governments at all levels. With the new EU multi-annual budgetary framework on the horizon, Europe really needs to re-think the overall costs and benefits of its redistribution policy, and rigorously assess its effects.

Overall convergence of Hungary, as a country towards EU averages in terms of economic development (income, GDP levels... etc.), as well as economic recovery from crisis, is indeed better served by concentrating development resources on growth poles and economic growth-oriented investments. As tables and figures in this study show, more than half of the total amounts of EU funds went to better developed parts of the country. Yet, for the sake of reducing within-country disparities, support for the lagging regions is still important, as very significant disparities exist and continue diverging in economic and social development and economic potential among Hungarian regions today.

As it has been shown, also in this chapter, private investment almost exclusively flows into more developed regions: only 1.7% of private investment was realized in those 33 micro-regions. Thus, market forces strengthen regional differentiation. The scale of public funds arriving at the impoverished regions exceeds that of private

investments, and, in per capita terms, also EU funds absorbed by other areas. As a result, in these least developed micro-regions, development policy can indeed trigger a significant relative move. Nonetheless, the grant-dependent nature of their development path is also evident. The role of EU funds has grown even more in their development potential with the decrease of national decentralized resources.

A major contribution of the analysed special program, for targeting the most disadvantaged 33 micro-regions, was that it has managed to induce some positive changes in the fund absorption capacities of these laggard areas (**Figure 12**) via facilitating connections among local development actors and institutions. Results show marked differences in per capita allocations, especially compared to data from the other 14 disadvantaged micro-regions not treated by this special program (**Figure 7**). Although, in terms of program coordination and execution, it was far from optimal.

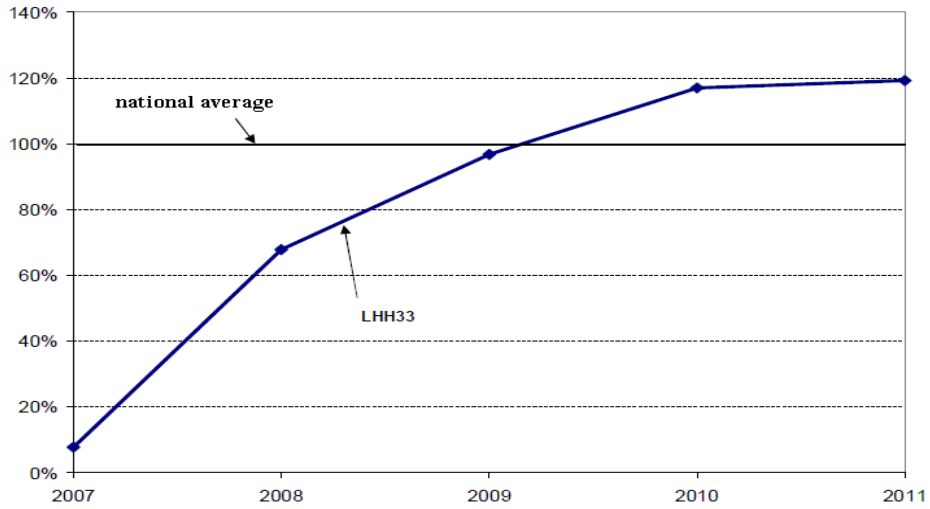

Figure 12: Funds absorption improved: Per Capita EU funds disbursement in LHH33 micro-regions between 2007-2011 in % of national average.
Source: National Development Office Hungary, 2013, Program Evaluation Report, p.92.

More developed regions of the country received larger chunk of EU funds for development in the first 2004-2006 period (65%), than in the second period between 2007-2011 (54.5%). There was slight improvement in their role in internal convergence, but as said, the large majority of private investment, and thus economic development, happens in those better-developed areas.

The effects of LAMR special program is captured nicely in that the funds allocated to the least advanced micro-regions are ca.15% out of the whole EU funds

portfolio[76], the funds paid per capita considerably exceed figures of the other 14 most disadvantaged micro-regions for whom the program was unavailable. This unavailability is due to their position just beyond the cut-off point, lending them a unique class as a natural 'control group,' and due to several more developed areas. However, per capita figures draw a somewhat upward biased picture, due to the low population of these laggard micro-regions. Likewise, looking at total amounts instead of per capita shows that more than half of EU funds went to better-developed areas, and growth poles of the country. From a detailed breakdown along different subsidy categories, it is visible that these targeted micro-regions applied for and received higher than average portions of funds for the improvement of local communal services, smaller infrastructure development, funds for active labour market policies, and funds given for businesses. Nonetheless, they were fairly underrepresented in funds given for research and development, higher education, and human resource development in general (Dynamiting depressed regions, Program Evaluation, NDA 2013).

Well-targeted programs of even smaller amounts, such as this special program introduced in Hungary for the least advantaged micro-regions analysed here, can offer a chance to smooth and slow down negative processes, as the development of such laggards is grant-dependent. The practice of highlighting/favouring disadvantaged micro-regions is a useful and necessary policy tool. However, the devil is in the details, where targeting complex program design, setting outcomes and policy tools right, special treatment and local planning, and cooperative implementation are key for the success of such special policy programs. As previous research has pointed out, chances of bad implementation, clientelistm, political deterrence, rent seeking, and elite-capture are threats especially at local levels. These dangers are relevant in all cohesion countries, but are especially strong for new CEE member states, with fragile and emerging institutional systems.

It has been shown that, not only are lagging regions behind with their growth and development, but often, due to weak institutions, lower capacities to innovate, lack of human capital and so on, they cannot really make productive use of available resources. Hence, they become prone to persistent under-development. On one hand, cushioning lagging regions with such well-targeted and complex programs can help draw them out of these vicious cycles. Yet, there are risks and potential pitfalls too. Such interventions distort efficient functioning of markets by favouring certain types of activities, and entities and so on. Such favouritism induces adverse selection in many cases, as well as shelters these regions from the markets. They also crowd out private investments, leaving these regions very grant-dependent and thus fragile if pubic funding becomes non-available. The very strong dependency culture has its roots in new CEE member states and in their common socialist past. However, in such

76 That is, higher than their 10% proportion from the country's population.

regions, it gets even more re-enforced and makes them less able to adapt and innovate, and more prone to local elite capture and clientelism. It seems that strengthening such laggard regions in the long term is only possible with a combination of grants, and provided public goods and services; but also along with an institutional reform and strengthening of human capacities.

Serious improvement in terms of territorial policymaking can only be expected if sectorial policies and social agenda become 'space-sensitive' and 'place-based', as suggested by Barca (2009: 120-125). Without these, according to Barca, mere provision of more public funds is neither enough, nor efficient, as it can easily lead to grant-dependency—as evident in the outcome of this case. With this in mind, Europe and its member states (Hungary included), need to further think about how to reconcile the truly conflicting goals of overall growth and innovation, as well as on social cohesion and partial regional convergence of core, peripheral, and other regions, in a more nuanced way.

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4 JESSICA Initiative to Support Sustainable Urban Development Projects in Poland

Ida Musiałkowska & Piotr Idczak[77]

Abstract: The JESSICA initiative has been set up to respond to development needs of urban areas, which are of key importance for stimulation of sustainable economic growth. It is supposed to provide a more efficient alternative to the traditional EU grants for the implementation of developmental projects. The funding available under the JESSICA framework relies on a repayable and recyclable basis. This means that it not only offers revolving funds, increasing financing capacity of EU cohesion policy, but also creates scope for cooperation between public authorities, financial institutions, and private investors to support implementation of this policy. Since JESSICA supports projects being part of an integrated plan for sustainable urban development, its primary challenge is to combine the objectives focused on urban sustainability and policy intervention with revolving financial models that assume, in principle, the long-term viability of projects. However, taking into particular consideration the needs of urban areas and the EU cohesion policy objective on the one hand, and the organisation and operation of financing engineering instruments on the other, JESSICA seems to be a very ambitious undertaking. The evaluations carried out, up to now, have been mainly focused on its legal and institutional framework, or limited to some selected project. Our study concerns the assessment of all projects implemented within the framework of the JESSICA initiative in five Polish regions, namely: Pomorskie, Mazowieckie, Śląskie, Wielkopolskie and Zachodniopomorskie, in the years between 2007-2015. To do so, we designed a methodological approach for assessing the extent to which projects implemented under the JESSICA initiative have contributed to achieving its fundamental assumptions. Subsequently, we made an assessment of the results of JESSICA through the conceptual lens of sustainable urban development. The main findings show that the range of achieving the assumptions of the JESSICA funding model by projects diverges widely. Many projects were quite well adjusted to the requirements but there were also projects that fulfilled them to a very limited extent.

Keywords: JESSICA, sustainable urban development, revenue-generating projects, revolving instruments, cohesion policy

77 Poznań University of Economics and Business, Department of European Studies. Correspondence: ida.musialkowska@ue.poznan.pl; piotr.idczak@ue.poznan.pl

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4.1 Introduction

One of the consequences of the development processes in the EU is the growing disparity in cities and urban areas. The negative result of such processes affect citizens, especially those who inhabit potentially marginalised areas of the cities, and the level of economic activity, which may cause the degradation of the space itself. Disparities may be treated as the result of market failure. Therefore, intervention is required. Intervention is often a part of the regeneration that is based on three dimensions: 1) spatial, 2) social, and 30 economic dimensions. In order to address the problem, the European Commission decided to introduce the Joint European Support for Investments in City Areas initiative (JESSICA), as a part of the cohesion policy in the years between 2007-2013. JESSICA is the revolving financial instrument focused on the sustainable development of the cities. Eleven member states decided to experiment with the newly proposed solution. One of them was Poland, the first country to sign the agreement. Five Polish regions, namely, Pomorskie, Mazowieckie, Śląskie, Wielkopolskie and Zachodniopomorskie, included the JESSICA resources into their operational programmes.

JESSICA relies on revolving mechanisms that provide repayable and recyclable funding targeted at economically-viable and sustainable urban development projects. Revolving funds that are complementary to grant funding make it possible to increase the financing capacity of managing authorities because they create a lasting legacy from the EU and national public funds (Mazars, 2013: 10–11). Its role has been to create strong incentives encouraging private investors to develop projects aimed at redressing the market failures in deprived urban areas, and also to be a powerful catalyst for mobilising additional financial resources for public-private partnership (PPP) (Held & Jakubowski, 2009). This new way of using funds, through a revolving mechanism and thereby accelerating further investments, would appear in practice; however, not as a satisfactorily functioning solution. Although there are only few studies looking into the problematic aspects of JESSICA, most of them indicate some shortcomings and achievements that are far from the expected goals. For instance, Bode (2015: 174–178) in his legal analysis of repayable instruments, points to some weaknesses in the assessment procedure of projects, with the consequence that they may not address actual market needs and have little real impact on the ground. He also draws attention to a relatively low real leverage rate of private sector, and consequently disappointing multiplier effect. Fotino (2014: 245–251) underlines the novelty of JESSICA, which in conjunction with a lack of expertise and existing "grant-framework culture," leads to uncertainty especially in the public sector concerning the use of financial revolving instruments and creation of PPP. Dąbrowski (2014; 2015) in turn, argues that the major barriers for the wider use of repayable instrument arise when it comes to cooperation between the public authorities and private entities. As a result, the implementations of urban projects often lead to tension, misunderstandings, and clashes of interests. Musiałkowska and Idczak (2016) note that key decisions on project selection are made

by financial institutions whose operating objectives may differ from the objectives of the EU cohesion policy and city authorities. This may mean that the benefits assumed by the designers of JESSICA at the EU level are being achieved only partially. A recent study on this topic, carried out by Nadler and Nadler (2018), confirms the previous findings and outlines several reasons for the main difficulties encountered, including among others, incapacity of private financial institutions to risk sharing, relatively high implementation and administrative costs, and low financing at the project level.

The above-mentioned complex analyses however, have failed to address the impact of JESSICA funding on sustainable urban development. Since the question of this new kind of support and its functioning has been mainly discussed in the context of its legal and institutional framework. This study focuses on projects implemented with the use of JESSICA funds. It provides further evidence for the debate on the specific nature of revolving funds used to accelerate investments in urban areas. The original contribution of this study, in contradiction with earlier findings, is to assess the JESSICA projects implemented in Poland with regard to the assumption of the JESSICA funding model. Thus, the objectives of the study are twofold: First, to build a methodological approach for assessing the extent to which projects implemented under the JESSICA initiative have contributed to achieving its fundamental assumptions as a new tool for supporting urban development, and its objectives to be initially adopted. Second, to evaluate the result of JESSICA through the conceptual lens of sustainable urban development.

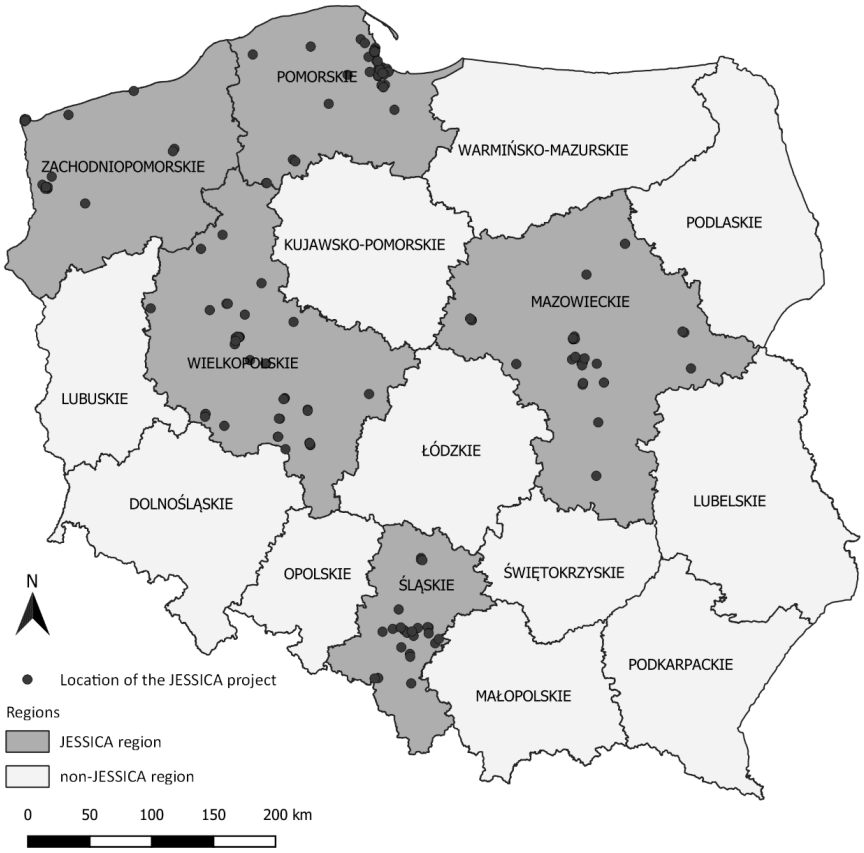
The methods used in the research comprise multivariate analysis (MVA) techniques that facilitate the capture of both qualitative and quantitative aspects of the JESSICA assessment (such as expert survey, principal component analysis, and polychoric correlation). We applied the techniques to datasets created for the purpose of the study, which included all projects implemented in Poland in the years 2007-2015. The study sheds more light on the innovative use of financial instruments within the cohesion policy, and presents in-depth analyses of the mechanisms of sustainable development on the example of Polish cities. Therefore, the experiences of Poland can serve policy-makers and add to the body of literature on the implementation of the EU cohesion policy in Eastern, Central, and Southern Member States, which is one of the main aims of the monograph. The results are of particular importance in the wake of negotiations of new multiannual financial frameworks of the European Union, where the use of financial instruments is heavily debated.

The remainder of the chapter is structured as follows: in section 2, we present briefly the institutional structure of JESSICA in Poland and its key characteristics. Section 3 provides a theoretical framework of JESSICA-led sustainable urban development. Section 4 develops the model of operationalisation of the assessment of the JESSICA projects, and includes a multi-variate analysis techniques applied in the study. In section 5, we present and discus the results. Finally, section 6 concludes the chapter by highlighting the most important results and implications that emerge from the study.

4.2 Jessica Initiative as a Revolving Instrument of the EU Cohesion Policy

The JESSICA initiative is one of the financial engineering instruments used under the EU cohesion policy that entered into life in the 2007-2013 financial perspective. It was a response to insufficient financial resources for the regeneration processes that promoted regeneration actions through the use of the repayable financing mechanism. It was aimed at increasing effectiveness and efficiency of the actions and projects. JESSICA used the resources of one of the structural funds—the European Regional Development Fund (ERDF)—in the form of revolving instruments (loans, guarantees), allowing for example, achieving the multiplier effect of the actions implemented (Memorandum of Understanding, 2006). JESSICA was developed by the European Commission in cooperation with the European Investment Bank (EIB), which can act as a trust fund manager and which works in cooperation with the Council of Europe Development Bank (CEB). In the years 2007-2013, this initiative was applied in 11 EU countries, including Poland. In all five Polish regions: Mazowieckie, Pomorskie, Śląskie, Wielkopolskie, and Zachodniopomorskie (see **Map 1**), that decided to implement JESSICA, EIB was a beneficiary of the measures of regional operational programmes and performed a function of the holding fund that cooperated with the specialised Urban Development Funds (UDFs, namely: Bank Gospodarstwa Krajowego (BGK), Bank Ochrony Środowiska (BOŚ), and Bank Zachodni WBK S.A. (BZWBK S.A.)) responsible for the selection of the projects (Musiałkowska & Idczak, 2018a).

JESSICA, in general, supported projects in many areas such as urban infrastructure (including transport, water and sewage systems or power), heritage or places relevant to culture (contributing to the development of tourism or other permanent use), development of brownfield sites (including cleaning and decontamination of areas), creation of new commercial premises for small and medium-sized enterprises, development of information technology and research and development work, expansion of university buildings and improving energy efficiency (European Commission, 2013). Almost all types of legal persons enumerated in Polish law were eligible for applying for funds. The initiative was implemented under nine measures in five regional operational programmes that reflected the possible scopes of the eligible projects. In two regions, Pomorskie and Śląskie, there was only one measure related, in general, to regeneration of degraded urban areas. In the Zachodniopomorskie region, two measures were designed for operations of regeneration; respectively, of metropolitan area of the city of Szczecin, and the second measure, of other cities of the region. The remaining two regions, Mazowieckie and Wielkopolskie, also planned additional measures focused on the environment (Mazowieckie) and support to business environment or regional innovation system (both regions, see **Table 1**).



Map 1. JESSICA projects implemented in Polish regions
Source: own elaboration

In total, the allocation of 265.5 mln EUR was used for the initiative in the country for all 161 projects implemented until 2015 (according to "n+2" rule). The allocation was distributed via loan system only through above-mentioned UDFs, which increased the possibility of re-use of the allocated amount. The majority of projects were implemented in the Pomorskie region—45 projects—and in the Wielkopolskie region—40 projects. The lowest numbers of project (19) accounted for the Zachodniopomorskie region (**Table 1**). Nevertheless, the region with the lowest number of projects was the best performing in terms of fulfilment of criteria of the regeneration projects (see further analysis in the chapter).

109 out of 161 projects (67.70%) were the revenue-generating projects (Musiałkowska & Idczak, 2018a). All the projects implemented in the Zachodniopomorskie region belonged to this category, then 76.9% of projects implemented in the Śląskie region; 74.19% in the Mazowieckie region; 65%; in the Wielkopolskie region; and

46.67% in the Pomorskie region. Almost all projects (98.18%) implemented by the private beneficiaries, and only 51.89% of projects implemented by public entities, were the revenue-generating projects (RGP). Both, the scope of the projects and the criteria set by the UDFs towards eligible projects had the crucial impact on such performance.

4.3 JESSICA Initiative & Sustainable Urban Development

The key challenge for the JESSICA initiative has been to make optimal use of synergies between revolving investment funds and integrated urban planning objectives. Such approach implies many possible benefits for all stakeholders of urban development processes. First of all, structural funds provided in the form of a repayable model, recycle financial resources and thus, enhance and accelerate investments in disadvantaged urban areas. A further benefit is the catalytic effect on intensifying both public and private sector and their financial and managerial capabilities to cooperate effectively, and develop jointly urban development projects. Finally, financial engineering instruments not only support and promote sustainable urban development, but also provide incentives that lower risk-capital investments and consequently, allow overcoming existing market failures. In general, the JESSICA initiative is supposed to deliver on the sustainable outcomes sought by cities. By improving the availability of capital and its risk-return profile, in combination with an integrated approach, multilevel governance and partnership, this initiative should bring a real added value to urban communities.

However, when combining all of the assumptions with the multitude of urban needs and the willingness to implement the relatively challenging projects (taking into account the novelty of the JESSICA institutional framework as well), it emerges that this new initiative becomes a very ambitious undertaking. As pointed out in the objectives of the EU cohesion policy 2014-2020, urban development that meets the existing and new needs of urban areas can only be achieved through an integrated approach. Thus, "measures concerning physical urban renewal should be combined with measures promoting education, economic development, social inclusion and environmental protection" (European Commission, 2014b: 2). The clearly stated approach to urban development relates, admittedly, to the current EU financial perspective, but an explicit reference to that approach was also reflected in the cohesion policy between 2007-2013. Regulation on European Regional Development Fund (Article 8) suggests that structural funds should support "the development of participative, integrated and sustainable strategies to tackle the high concentration of economic, environmental and social problems affecting urban areas" (Regulation No 1080/2006, 2006). Therefore, EU cohesion policy introduced the urban dimension of the policy, which required the cities to establish the integrated urban development strategies or programmes. Hence, all measures undertaken within the framework of that policy should have promoted competitiveness and social inclusion. Such

Table 1. JESSICA in the Polish regional operational programmes for the years 2007-2013.

Region	Regional Operational Programme (ROP): measure	Objective of the measure	Beneficiary – Holding Fund (HF)	Urban Development Fund (UDF)	JESSICA allocation per measure (EUR)	No. of JESSICA projects
Mazowieckie	"Mazovia" ROP for the years 2007-2013: • 1.6 Support of the business network at the regional level • 4.3 Air protection, energy • 5.2 Regeneration of cities	Development of business networks; Improvement of the air quality. Ensuring the energy security; increase of the use of renewable energy. Renewal of degraded urban areas.	EIB	Bank Gospodarstwa Krajowego	49.4 mln	31
Pomorskie	"Pomerania" ROP for the years 2007-2013: • 3.3 Infrastructure of the development of the cities – non-grant aid: (JESSICA initiative)	Development of urban and metropolitan functions that aim at the increase of the socio-economic potential of cities	EIB	Bank Gospodarstwa Krajowego	56.8 mln	45
Śląskie	"Silesia" ROP for the years 2007-2013: • 6.2.3 Regeneration – JESSICA	Multi-function use of degraded urban areas	EIB	Bank Ochrony Środowiska	60 mln	26
Wielkopolskie	Wielkopolska ROP for the years 2007-2013 : • 4.1 Urban regeneration • 1.4 Support of the activities related to Regional Innovation Strategy	Increase of the socio-economic potential of supra-local and local centres of growth; Strengthening of regional innovation system	EIB	Bank Gospodarstwa Krajowego	66.3 mln	40
Zachodnio-pomorskie	Zachodniopomorskie ROP for the years 2007-2013: • 5.5.2 Regeneration- JESSICA initiative • 6.6.2 JESSICA initiative at metropolitan area	Regeneration of degraded urban areas	EIB	Bank Ochrony Środowiska BZWBK S.A.	33 mln	19
5 regions	9 measures	-	1	3	265.5 mln	161

Source: own elaboration

an approach entails a variety of factors that must be taken into consideration when drawing up programmes of integrated urban development, such as inter alia, economic growth and jobs, rehabilitation of the physical environment, social exclusion, demographic change, urban sprawl, brownfield redevelopment, the preservation and development of natural and cultural heritage, the promotion of entrepreneurship, good governance... etc. (European Commission, 2009: 31–32; Regulation No 1080/2006, 2006).

In order to ensure closer coordination of the wide scope of possible actions and sustained convergence of the socio-economic performances, all projects planned to be implemented under the JESSICA initiative must have been included in an integrated plan for sustainable urban development. This plan constituted a direct response to the diagnosed urban needs and issues that should have been addressed, and specifically those requiring mitigating measures. In this respect, the plan should have specified "a system of interconnected measures designed to produce a permanent improvement in the economic, physical, social and environmental conditions of a city or quarter" (Urbact, 2010: 2). It is worth noting that European regulations did not explicitly envisage a definition of an "integrated plan for sustainable urban development" (IPFSUD). This relevant regulatory framework should be laid down by the member states and their managing authorities in accordance with Article 8 of Regulation (EC), No. 1080/2006, and considering the specific urban, administrative, and legal context of particular regions. The plan should have been composed exclusively of coherent projects or consistent groups of projects, which rendered positive externalities for urban inhabitants; particularly, in specific fields having substantial needs for a long period. All of the projects, before they were included in the plan, had to be examined and evaluated in terms of their contribution to reducing negative states and their capacity to increase the quality of life and work of urban citizens. This means that those projects should be carried out on the basis of the interrelationship between them so as to generate synergies that guarantee that the results of the entire plan are greater than the simple sum of those of the individual projects (Urbact, 2010: 2). It is, however, clear that each particular project needs to be comprehensive as such—that is, tailored to the local needs, combining various aspects on a case-by-case basis: economic development, social integration, education culture, environmental issues, spatial planning... etc. Only such projects have the potential to achieve results with regards to sustainable urban development and deliver a real added value.

Coming back to the matter of relevant factors in sustainable urban development, it is important to emphasize that urban sustainability cannot be limited to what happens within a single place, and cannot be considered in isolation from the wider context. It is a multi-scale and multidimensional issue that leads to a balance between positive and negative urban quality conditions (Nijkamp, 2008: 15–17). Therefore, JESSICA projects should incorporate all driving factors deemed relevant in determining sustainable urban development and take into account urban problems in a coordinated way so as to be sustainable for itself and for the entire city (Nadler

& Nadler, 2018: 4–5). If one is to understand the impacts of that kind of policy intervention aimed at deprived urban areas, it is necessary to have some appreciation of the complexity of this issue. Therefore, it is important to build first an understanding of how it has been conceptualized and how this has fed into development of urban areas. In the subsequent section, five contexts (financial, economic, social, spatial and horizontal) of JESSICA-led sustainable development of urban areas are discussed. The contexts form the theoretical foundations (dimensions) of the model used in empirical analysis.

4.3.1 Financial Context

Since the JESSICA initiative relies on revolving funds, and its role is to enhance and accelerate a potential for new investments in urban areas, in principal only projects that generate return flows are eligible for funding offered by this instrument. Urban projects that were approved by UDF for investment can be funded through equity, guarantees, or loans (Nadler & Kreuz, 2011). This means that such types of financial support, in whatever form, must be reimbursed in accordance with the conditions laid down while granting them (EIB, 2010: 12, 45–47). The repayment should be achieved either in the form of solely commercial returns or project revenues secured directly by investors (mostly by the public side) from other sources. Hence, the refund can be provided by either revenues obtained from primary business activities of investors, or other revenues derived outside their main operations. In the former case, the cash inflows raised from sale revenues (flows directly paid by users for the goods or services provided by particular projects) allow the generation of a financial net present value (FNPV) and a financial internal rate of return (FIRR)[78] in a dynamic capital budgeting analysis of a project. With regards to the latter, the lack of revenues, or their insufficient level, means that projects had to achieve neither an adequate level of profitability nor even an operational margin. Such an assumption can be justified on the grounds of the promotion of economic and social cohesion by correcting urban imbalances[79]. However, projects should be financially sustainable both during the investment and the operational stages. It means that projects must have sufficient sources of financing (both internal and external) to meet all of their financial obligations and needs over their life. Putting this more precisely, if the negative cash flows are forecasted

78 FNPV and FIRR are commonly used as indicators that enable the assessment of the ability of a project to repay the investment costs, regardless of the sources or models of financing. There are measures of financial profitability.

79 The insufficient level of revenues in some projects can be offset by subventions that are paid in the form of other operating revenues by public institutions due to occurrence of an important public interest.

during the project's time horizon, the project promoters are obligated to provide a clear long-term commitment by external financing to cover these negative cash flows. The inflows may take the form of transfer, subsidies, and/or other financial gains that do not stem from charges paid by users for the use of the infrastructure, but are paid directly by investors and included in the income statement in the item's "other operating revenues" (European Commission, 2014a: 50–52). In general, financial sustainability occurs if the cumulated generated cash flow is positive for the whole project's considered time horizon.

4.3.2 Economic Context

Financial profitability as such, is used to show a project's ability to generate profits from its operations and is calculated from the investor's point of view. Therefore, it does not show the project's impact on the economic welfare of the society, which is essential for the project appraisal in light of its contribution towards achieving the EU cohesion policy objectives and its consistency with other EU and national policies. This is why economic efficiency has an important role in the appraisal process of projects. It is a yardstick of the net benefits for society resulting from the implementation of a particular project. Economic efficiency aims at determining what extent a particular project will contribute to the creation of social wellbeing. Economic analysis is made on behalf of the whole of society instead of just the project owners—as in the financial analysis. It takes into consideration, not only the items of income or expense associated with financial cash flows, but also covers other areas that do not necessarily have to be subject to market transactions. It includes social benefits and costs as well, or externalities that spill over from the project towards other parties without monetary compensation (European Commission, 2014a: 54–62). In practical terms, economic analysis consists of adjusting the financial cash flows by inserting the externalities, previously quantified and valued in monetary terms, to the cash flow statement. As a result, it is possible to measure the economic efficiency by calculating the economic performance indicators; in particular, an economic-net present value (ENPV) and an economic rate of return (ERR)[80]. With all of this in mind, it is important to note that all projects supported by UDFs are required to demonstrate their capacity to generate not only FIRR, but also ERR (Nadler & Nadler, 2018: 1843). This means that only such projects, on the one hand, ensure the return on investment, which facilitates the repayment of the JESSICA loan, whilst, on the other one, provide

80 ENPV and ERR are the most commonly used measures in appraising projects funded from EU Funds because they include social and environmental externalities. Moreover, these indicators are required in principle by the funds' regulations when applying for EU assistance. For more, see European Commission (2014a: 54–67).

significant positive externalities for society as a whole, contributing to improving welfare and living conditions in a sustainable way.

However, it is not infrequent in this matter that there are some benefits that may contribute positively to the project objectives; but they are defined in non-financial terms or take intangible forms. This refers mostly to such non-monetized or hard-to-value benefits as quality of life, social integration, human capital, biodiversity preservation, landscape, cultural heritage and so on. Although those benefits specified in a convincing way may be exceptionally taken into account when appraising a project, at the assessment stage of its outcomes, they should be considered in a comprehensive manner (Fiedor, 1990; Idczak, Musiałkowska, & Mrozik, 2019). In addition, overall project' impacts on the particular area are often excluded from the economic analysis of the project benefits. Nevertheless, they are particularly important because, as Verhoef and Nijkamp (2003: 4) noted, "externalities are more important in urban areas than elsewhere, both absolutely and relatively." The specific feature of urban areas is proximity, which makes the occurrence of un-priced spill-over effects even more likely, and they are often neglected in the analysis due to measuring difficulties (Verhoef & Nijkamp, 2003: 3–6). As aforementioned, only projects combining various aspects of urban driving factors may deliver results that match the assumptions of the JESSICA initiative and stimulate sustainable development of urban areas. Therefore, the analysis should cover a wide spectrum of aspects that are responsible for project contribution to the objectives of JESSICA.

One of the cities' tasks is to strengthen the local economy. For example, through creating urban development plans/strategies that include projects aimed at fostering entrepreneurship and prompting the emergence of new businesses in problem areas. Such actions should lead to the identification of new markets, and address people's needs (European Commission, 2009: 30). However, one may find that those plans in which urban projects are embedded do not always sufficiently incorporate market needs. Thus, the question arising here is whether the scope of the particular project implemented under the JESSICA initiative follows the current and future trends and is tailored to market needs and expectations. This, in turn, raises further issues regarding to economic recovery of deprived urban areas. According to the assumptions, JESSICA projects are generally focused on providing a new functional quality and creating opportunities for growth. It means that they need to revive economic activity in problem areas through the creation of conditions, and new services and jobs to be used by inhabitants. Another interesting aspect of the analysis revolves around the possibility of projects in positively influencing the surrounding neighbourhood by spill-over effect or a multiplier effect. In short, a project should be framed within a longer-term perspective, and placed in a local context in order to spark, as its impact, new business activities, services, functions and so on. Among all of these un-priced effects imposed upon one by another, one should mention the environmental externalities that make urban areas more environmentally friendly and maintain the desired environmental quality within them. It is clear that urbanization

and population density bring with them many inherent environmental problems, including for instance, congestion, air pollution, intolerable noise levels, reduced green areas, large quantities of waste... etc (Capello & Faggian, 2002; van den Bergh, 2010). The role of projects is to contribute to the protection of the environment, the prevention of natural hazards, as well as to mitigate the negative impact of human activities. Furthermore, the projects are expected to deliver beneficial environmental outcomes especially with regard to a reduction in the use of energy to avoid negative impacts on the security of energy supplies.

4.3.3 Social Context

When discussing issues concerning the JESSICA project and its impact on urban areas, one must keep in mind that key elements of urban development are social aspects. The IPFSUD's aim at promoting comprehensive projects, which fulfils many social needs and, within the framework of the integrated approach, should lead to the renewal of those urban areas that experienced mostly negative effects of urban changes and provide the reinforcement of socio-economic structures. Social sustainability is a basic component of any plan and any project to improve the living conditions of residents (Musiałkowska & Idczak, 2018b: 236–237). Therefore, projects cannot be limited to re-stimulating economic activity in an area where it has slowed down or even disappeared. They have to be executed under the wider plan to stimulate comprehensive actions in the dysfunctional areas in order to guarantee the restoration of social functions and enable social integration (Couch, Fraser, & Percy, 2003). Projects should play a full and active part in spurring social revival and social inclusion in urban problem areas. The former term refers to the increase of social and professional activity of residents as well as their growing participation in public and civic life. The latter includes all measures targeting those persons who are (or feel) marginalized and excluded, and it is orientated to bring them back to the social life and to the conventionally recognized mainstream society. This may cover for instance, actions focused on the concerns of persons with disabilities or affected by long-term unemployment, but also apply to the unavailability of some services for inhabitants such as e-services. The social dimension should not only place emphasis on enhancing the integration among persons and their activities, but also improving their health and the overall level of safety in the place of residence. Finally, the cultural and educational aspects need to be seen in this context as well (Ginsburg, 1999). This implies increasing people's access to culture, education and training, information, sport and recreation. With all of this in mind, operations run by urban projects create conditions that can close the existing gap and generate new opportunities, providing local people with a renewed urban space to live.

4.3.4 Spatial Context

Another issue that constitutes an indispensable element of EU cohesion policy, and needs to be taken into account while assessing the JESSICA project, is spatial (territorial) dimension. Put simply, this term means project targeted in a defined spatial area (Musiałkowska & Idczak, 2018b: 236–237). This stresses the significance and the specificity of a given area as a place unique in terms of the existing assets, endogenous potential, concentration of problems and external forces. Areas vary in development needs, growth potential, and the ability to react to exogenous forces and impacts in distinct ways. The place needs to be strictly recognised by assigning appropriate functions to different parts of it because each territorial element makes a major contribution towards the formation of a single organism with a higher urban quality and with a consequential better quality of life for the city's inhabitants (Francini, Gaudio, Mercurio, Palermo, & Viapiana, 2018: 165–166). This means that the preparation of a right project requires an understanding of the territorial diversity and territorial context. It must take into account the specificity of the space and respond in a precise manner to the distinct needs being expressed. Moreover, the project needs to be incorporated in the general framework of sustainable urban space development. Alongside this, it has to include actions that are environmentally friendly and at the same time maintain a high level of protection of human health and comfort of life. The urban actions should create places suitable for interpersonal relations and interactions, providing concurrently a space for leisure and recreation and enabling the performance of everyday-life tasks within the surrounding space (Sobol, 2013; Stangel, 2013). In that way, a particular project should be matched to the overall conditions laid down by spatial order that, in turn, organises an ensemble of possibilities and interdictions in urban space. It should contribute to shaping the spatial order by forming a harmonious whole and taking into account, in the right proportions, all functional, socio-economic, cultural, environmental, compositional and aesthetic requirements of urban development (Musiałkowska & Idczak, 2016: 117–120). Overall, the spatial context is fundamental for the effective implementation of projects because it has the role of the verifier of a rationale for undertaken actions and coordinates them.

4.3.5 Horizontal Context

Behind the objectives of EU cohesion policy stands the place-based approach that aims to encourage more integrated actions, tailored to the needs of individual areas and their citizens, and designed in line with all possible stakeholders' views. In this sense, a particular project should be seen either as a complex undertaking, combining in a single action several activities essential to reinforcing an individual area or as an

integral part of a larger plan including the coordinated actions that indicate the most appropriate solutions for a particular place.

Nevertheless, the projects implemented in light of the place-based approach should be responsive to local needs and expectations in such a way that they address the problems not from the perspective of external stakeholders, but from the perspective of urban areas and particular local places situated within their boundaries, and the people who live in them. This means that they should be geared towards local places to tackle existing economic and social disadvantages and to exploit its spatial assets. Adopting an integrated approach towards urban places underlines the need to work with multiple levels of stakeholders, either public or private, also including residents, to formulate programmes and projects aimed at reinforcing socio-economic structures and improving local capacity development (Böhme, Doucet, Komornicki, Zaucha, & Swiatek, 2011: 23-26). This is manifested by the formulation and preparation of integrated plans for sustainable urban development that must be adapted in accordance with existing needs, and include projects and proposals designed in relation to one another, to be approved through public consultations and embrace appropriate impact assessment (EIB, 2008: 2). The integrated context also means that projects should not be confined to a single investment that scopes only one type of action—for instance, infrastructure—but also offers other supplementary products or services important from the individual location point of view and its development. Moreover, the project should also be complex, meaning that they are expected to provide through their multifaceted status (integrated approach) a comprehensive response to the needs of a given area—to recreate certain activities or spark new functions.

As already mentioned, all of these considerations above constitute the concept of the JESSICA initiative and set the major theoretical framework for an empirical work on its functioning and achievements. The intention of the analysis carried out here, then, is to build a methodological approach for assessing the extent to which projects implemented under JESSICA have contributed to achieving its fundamental assumptions as a new tool for supporting urban development, and its objectives to be initially adopted. Undoubtedly, the deliberations made so far provide a better understanding of JESSICA and give rise to the identification of a set of operational measures that allow for the examination of JESSICA performance. However, it should be added that it does not mean that all projects need to fully reflect all aforementioned aspects surrounding a sustainable fund model. They should rather demonstrate a clear link to those aspects that, depending on the diagnosed requirements and needs of particular urban areas, result in achieving the desired effects to the greatest possible extent.

4.4 Research Methods & Data

The main aim of the analysis is to evaluate the results of JESSICA through the conceptual lens of sustainable urban development. This means that the research process requires the confrontation of the adopted intervention mechanism and its outcome with the theoretical model of its operation. As a result, it is possible to demonstrate the success or failure of an intervention and, in case of failure, to indicate appropriate remedial actions (Chen, 2012). To this end, it is reasonable to use an investigative approach referring to process of evaluation. However, when dealing with deprived urban areas, it is important to bear in mind that they are characterized by a strong endemic context, which means that the research task boils down to verification, under what conditions, how, and to which recipients said intervention is effective or insufficient. This, in turn, requires the use of elements of realistic evaluation (Olejniczak, 2008: 32–33; Pawson & Tilley, 1997). It explores contexts, mechanisms, and outcomes of actions, so that the particular characteristics relating to different places can be drawn, and they in turn provide insight into action effectiveness (Astbury & Leeuw, 2010: 371–375). Thus, it is suggested that realistic evaluation may be an appropriate framework to assess JESSICA projects and may also yield recommendations for policy.

Realistic evaluation treats the subject of study as part of a complex social reality and, through the adoption of a relevant analytical model, allows the study of individual components and processes shaping that reality. The research procedure involves four stages, which are designed to clarify and understand the actions (projects) taken in particular places (Pawson & Tilley, 2004: 6–10). These stages are as follows:

1. *Intervention mechanism* – it includes, taking into account the knowledge on a particular type of intervention designed for specific needs, identification of the causal link;
2. *Intervention context* – addresses the issues of 'for whom' and 'in what circumstances' a project will work (be effective);
3. *Outcome patterns* – comprises intended and unintended effects of the intervention arising from the activation of different mechanisms in different contexts;
4. *Context mechanism, outcome pattern, configuration* – describe models indicating how actions activate mechanisms, amongst whom, and in what conditions, to achieve the desired outcomes.

The approach based on a realistic evaluation has one more advantage deemed to be essential from the perspective of this study. This approach does not impose any specific methods. It is assumed that both qualitative and quantitative methods can be used[81]. The mechanism of the intervention led within the framework of JESSICA and

81 More details on this topic can be found in (Musiałkowska & Idczak, 2016).

its interventional contexts were outlined in previous sections. Thus, the subsequent analysis seeks to assess the JESSICA results achieved so far and contrast them with its conceptual framework.

Since the question of JESSICA has been primarily discussed in the context of complexity and multi-functional impacts occurring in urban areas, the research focuses on multivariate analysis (MVA) techniques. No single assessment can evaluate all of the kinds of JESSICA results we value for the improvement of urban areas, nor can a single measure (variable) meet all of the objectives held by JESSICA promoters, stakeholders, and policymakers. Therefore, it is important to envision a multivariate approach of assessment, in which different criteria are used as a basis for formulating evaluative questions through the full range of evaluation issues (OECD, 2008). The criteria should be such that to make it possible to judge whether the desired level of performance has been met or not, in light of the objectives and assumptions set. In view of the aforementioned, we considered all contexts of JESSICA and its role in sustainable urban development to define evaluation criteria to measure JESSICA results. Given the discussion carried out in the previous section, it is possible to formulate the five interrelated, but distinct, evaluation dimensions of JESSICA projects: financial, economic, social, spatial and horizontal. These dimensions lay down the main priority aspects of the assessment that characterise, in principal, the conditions to be fulfilled by individual projects. However, each of the dimensions are still reflected by multi-scale representation and cannot be measured precisely by a single indicator. This implies the need for determining some sub-components and, subsequently, selecting individual indicators that clearly reflect their relative importance and the complexity of the overall composite (OECD, 2008). Thus, in the next step we specified within particular dimensions the individual indicators that were selected in a way that takes into account existing linkages between them and indicating their desirability in relation to the relevance of the specificity of the single dimension. The assessment dimensions, and the individual indicators describing them, are displayed in **Figure 1**. All in all, these dimensions, as well as individual indicators deriving from a conceptual base, create a construct that provide relevant items to operationalise the concept of the assessment of the JESSICA projects.

Admittedly, most of the individual indicators cannot be measured directly or are still represented by multi-dimensionality. They have the nature of latent variables that can be indirectly measured by means of variables, which, in turn, can be perfectly observed and measured. Means of variables, here called just variables, contain information that reflect the approximate characteristic of an individual indicator. It should be pointed out that MVA techniques facilitate data, including qualitative (soft) data, from surveys into the assessment process (Walesiak & Bąk, 1997). Therefore, we decided to measure individual indicators (latent variables) indirectly through the use of variables that were derived from a survey. To put it simply, each indictor was described by a single variable expressed in the form of a question. The responses to the questions consisted of choosing a proper integer value as follows:

0 – „no"; 1 – „no/yes"; 2 – „yes"

The assessment equals "0" when requirements defined through the individual question were not absolutely met by the particular projects, and "2" otherwise. The in-between assessment designated as "1" related to a situation when it was not possible to assess the projects accurately and entirely[82]. The approach based on MVA, as outlined above, allows for assessing JESSICA projects by means of the objective function defined by many criteria. It is often used to assess complex and incomparable projects, when it is insufficient, and often even impossible, to use only one measure based on scalar optimisation taking into account only one criterion.

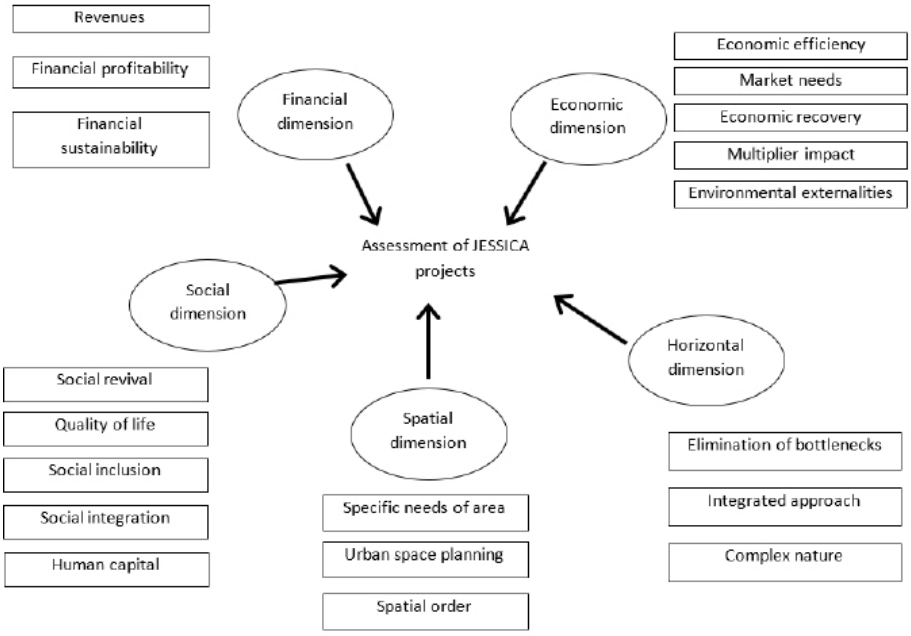


Figure 1: Operationalisation of the assessment of the JESSICA projects.
Source: own elaborations.

82 The use of the three-point-scale of assessment was dictated by an intention to obtain results that may be expressed in binary form, i.e. meets or does not meet. However, narrowing the possible responses to the only two opposing categories would have deprived respondents of the possibility to manifest reasonable doubts, if the sufficiently precise assessment was not possible. Therefore, an intermediate grade was also implemented.

We decided to invite 4 experts, specialised in European funds, urban planning, and sustainable urban development, to participate in a survey[83]. This means that the variables used in the study provide information stemming from a process that represents a shared perception of a reality, which, in this case, relates to a given state of affairs reflecting individual projects. The multidimensional nature of JESSICA projects is thus described by many different variables that carry various kinds of information being extremely important for the process of comparing these projects. Therefore, in order to avoid explaining separately particular variables describing complex (dependent) phenomena (projects), there is a need to demonstrate the global relation of complex explanatory (independent) features to other given complex phenomena/projects (viewed as a uniform whole). To do this, it means applying composite indicators that aggregate multidimensional undertakings into simplified concepts and make their comparability possible. The main point of the construction of a composite indicator is to put together, in a meaningful way, different dimensions included and measured in the study. This implies the use of a weighting method to aggregate information. In order to give variables appropriate weight, we applied a principal component analysis (PCA) (Bollen, Glanville, & Stecklov, 2007: 19–22). PCA methods explain the highest variation in the dataset. They use the smallest possible number of factors that reflect the latent "statistical" dimension (factors) of the dataset (Kaczmarek, 2016; Mori, Tanaka, & Tarumi, 1998; Walesiak & Bąk, 1997). By doing so, the values of the weights derive from statistical models, and this approach is deemed non-arbitrary. Applying PCA was proceeded by the estimation of the correlation between latent variables. To this end, we used polychoric correlation, which measures the correlation between two continuous latent variables that have a bivariate normal distribution[84]. Additionally, it is important to emphasize that, when calculating the factor loadings, we applied the maximum likelihood method to receive the most appropriate estimators for the factor loadings (Olsson, 1979).

83 The experts came from academia and municipal departments dealing with regeneration. None of the experts were involved in the implementation of the JESSICA projects to assure impartiality. The experts assessed all 161 projects against detailed model criteria. It is worth mentioning that the group of potential experts capable of providing in-depth evaluation of JESSICA in Poland, with regard to the assessment approach proposed in the study, is quite limited. Moreover, the number of experts invited to the survey, in our opinion, meets the rules of the approach proposed by Christopoulos (2009) relating to expert interviewing/surveying, and those experts can legitimately be considered relevant for our research purposes. In view of the above, we believe that the information collected in this way ensures the reliability of data and the validity of research results based on them. For further details see Dorussen, Lenz, & Blavoukos (2005). Nonetheless, bearing this in mind the results from such analyses should be treated with caution.

84 This method is frequently applied when analysing items on surveys that often use rating scales with a small number of response options. For more see (Kolenikov & Angeles, 2009; Uebersax, 2015).

The empirical analysis in this study builds on a dataset containing details on all projects implemented within the framework of the JESSICA initiative in Poland during the 2007 – 2015 period[85]. This dataset was created on the basis of the information made available by the Marshall Offices of all regions implementing the JESSICA initiative and institutions acting as managers of the Urban Development Funds. In addition, data regarding projects were supplemented by the results of the examination of the other sources such as project descriptions, policy reports, official websites and field studies. Each of the experts invited to the survey were provided with full access to the database, so that they were able to carefully analyses and properly assess the projects by indicating an accurate score.

4.5 Results & Discussion

As outlined in the theoretical framework, the JESSICA initiative focuses on supporting sustainable urban development through revolving financial mechanism. This entails designing undertakings that, on the one hand, ensure a strong and long-term viability, whilst on the other, activate all relevant stakeholders to play a critical role in selecting and implementing operations that have to be regenerative for cities. In a nutshell, JESSICA has been seen as a tool that conveys the model of urban sustainability based on financial engineering in a real city-world. However, when looking at **Figure 2**, one may see that the overall assessment of projects implemented with the support of JEESICA, varies considerably according to both the five-evaluation dimensions and individual indicators. What is surprising is the fact that, even the financial dimension, originally foreseen as a key point of this instrument, was not highly assessed. This suggests that a certain number of projects have not been financially sustainable, both at the investment and the operational stages. A closer look at this dimension and its performance reveals that none of the indicators have reached the maximum achievable scoring result. This also relates to the "financial sustainability" that serves as some kind of financial collateral to balance project cash flows, including, and especially, the security for the repayment of JESSICA loans. As such, it should be seen as a necessary condition for being a JESSICA beneficiary. A reasonable explanation for this result may be that, according to experts, some projects have been completely lacking the profitability. In other words, some beneficiaries were not only not able to secure the loan repayment from their primary activities, but also from any other ones due to the non-commercial nature of those activities. Therefore, the coverage of lifelong operating costs and the reimbursement of the JESSICA loan had to be ensured by some external bodies, such as governing authorities[86].

85 N+2 rule was taken into account when considering the implementation of the projects.

86 This could partly include, for instance, public educational entities that, in Poland, are governed by self-government units or other public legal persons.

As far as the economic dimension is concerned, most prominence is given to the two indicators that practically reached the maximum result—i.e. "economic efficiency" and "market needs". These findings imply that, in principle, all projects were perfectly matched to the current needs and make a significant contribution to welfare by providing benefits for citizens. The three other indicators, in contrast, point to the average level of satisfaction with the economic impact of a project in particular urban areas. Considerably poor effects are especially observed when it comes to the creation of a new chain reaction and, through that, the stimulation of the local economy.

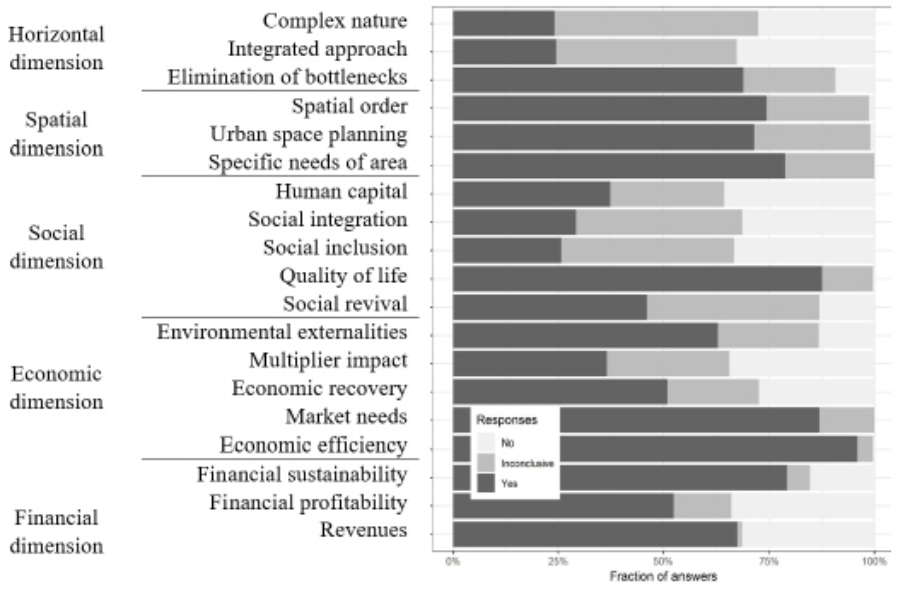


Figure 2: Assessment of the JESSICA dimensions by projects, implemented in Poland in 2007-2015 (results of the survey).
Source: own elaboration.

The weakest characteristics out of all dimensions taken to assess the JESSICA projects seem to be those related to the social dimension. Apart from the "quality of life," which received the highest score and shows a substantial impact on projects in this aspect, the other indicators are evaluated below expectations. The relatively large share of inconclusive responses, and wider scope of negative responses than positive ones, may prove that projects have exceptionally little impact (not to say negligible) in shaping social development in the face of the complex set of challenges described in IPFSUD. Regarding the spatial dimension, the results highlight that projects in principle, were quite well prepared and adequately fulfil the requirements described in strategic and planning documents. In turn with respect to the horizontal dimensions,

one may notice that the results provide a predominant proportion of inconclusive responses in comparison with the other possible ones. These results indicate that the implementation of JESSICA projects has not sufficiently respected the principles of an integrated approach, which are recognised as being of a particular challenge in the enhancement of sustainable urban development.

The most striking observation to emerge from the data analysis at this point is that many projects are not characterised by operating profitability (profit margin), and that their real added value derives mainly from specific benefits that the investment will generate for the society (understood in terms of economic efficiency). These are mostly projects for which financing in the form of JESSICA loans did not constitute public aid. They are deprived of a commercial element, and the profitability condition has been replaced by the project promoter's creditworthiness. Moreover, the actions undertaken in projects related to the social dimension often had a complementary nature and were not an appropriate response to the real needs of the inhabitants. The actions in their scope concentrated mainly on issues such as, for instance, the improvement of security issues through the installation of video monitoring or reduction of social exclusion by adapting buildings/facilities to the needs of persons with disabilities. These effects should not be questioned. However, they result from legal regulations or generally applicable standards, which means that they would probably be implemented anyway.

As was discussed in the theoretical section, not all projects are expected to accomplish fully the individual assumptions of the JESSICA model to support sustainable investments in urban areas. Nonetheless, their activities should be adjusted to local needs as much as possible and pursue the goals of sustainable urban development. This is of primary importance. In order to assess the extent to which projects implemented under the JESSICA initiative have contributed to achieving its fundamental assumptions, we need the overall picture of projects pointing all aspects covered by the five dimensions. Therefore, following this line of argument, we applied a principal component analysis to determine the weight that was subsequently used to construct a composite indicator. It turned out that the variables are quite well represented by a single component (factor). The eigenvalue of this component amounted to 6.964, which accounts for 0.367 of the total variance in the dataset. This was deemed sufficient to explain the highest possible variation in the variable set. Thus, the variable loadings of the component were considered as optimal weights because no other set of weights could produce a set of components that are more successful in explaining the variation in the analysed variables. Finally, we constructed a composite indicator as an average value of data from four independent respondents[87]. The results, normalised to 100, are illustrated in **Figure 3**.

87 Such calculation was possible due to a strong correlation between the four individual composite indicators (0.89 on average).

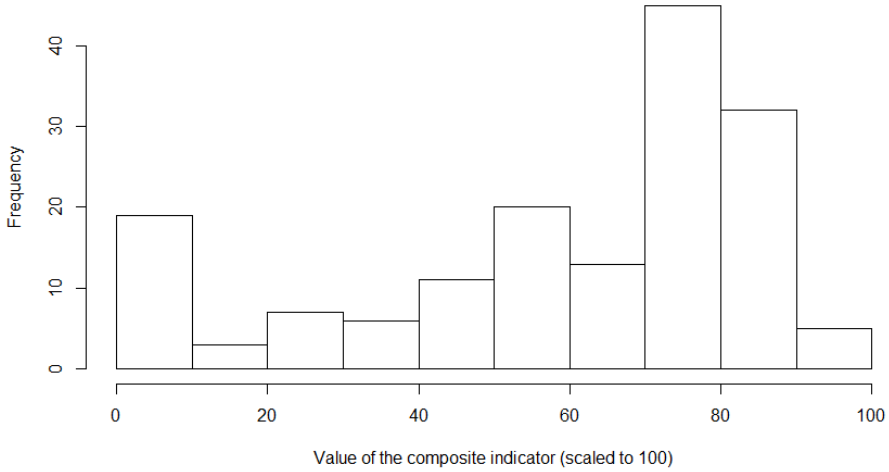


Figure 3: Histogram of the composite indicator.
Source: own elaboration.

What clearly emerges from **Figure 3** is a wide variety of JESSICA projects in terms of the value of the composite indicator. There are few projects that perfectly comply with JESSICA goals focused on sustainable urban development. Half of all projects meet the assumptions of this financial engineering instrument at a very high level, and make a significant contribution to achieving urban sustainability. Nevertheless, there are also a certain number of projects that were judged as partly unsatisfactory or unsatisfactory. This may be due to their scope of activities, which were often limited to one type of an operation and did not include components rendering positive externalities for urban citizens.

In order to provide additional depth to the research, further analysis is conducted at regional level to compare results between particular regions. **Figure 4** presents the distribution of the value of the composite indicator in all regions that implemented JESSICA initiatives. First, it points to large differences between regions in the level of the composite indicator. The differences are statistically significant, which was proven by Kruskal-Wallis test: *chi-squared* = 112.08, *df* = 4, *p-value* < 2.2e-16. Additionally, we also used Dunn's test of multiple comparisons to pinpoint which specific regions differs significantly from the others.

By doing so, we obtain the results among multiple pairwise comparisons after a Kruskal-Wallis test for stochastic dominance among the analysed regions. We can note from **Table 2** that there are significant differences, particularly between all of the pairs of regions with the exception of two pairs: Mazowieckie-Pomorskie and Śląskie-Wielkopolskie. By analysing data in **Figure 4** and **Table 2**, we acquire evidence that reveals that the best performer in terms of the composite indicator is the Zachodniopomorskie region. In turn, the worst performing region is the region of

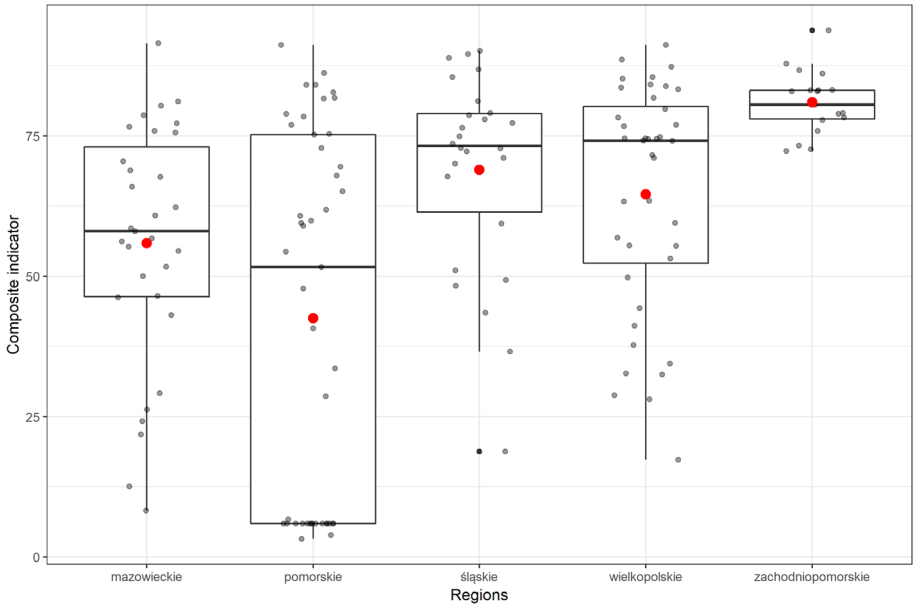


Figure 4: Distribution of the value of the composite indicator in all Polish regions.
Source: own elaboration.

Pomorskie. The remaining three regions are in the middle of the scale (**Figure 5**). In all the regions, dispersion of the projects along the scale can be detected, meaning that there is room for improvement for future planning and implementation of similar projects. Moreover, the biggest difference in performance (with the highest value of Z-parameter), visible between the Pomorskie and Zachodniopomorskie, implies that the projects in the former region responded to the lowest extent to the assumptions of the JESSICA model aimed at supporting sustainable investments in urban areas. Whereas, the projects in the latter region are deemed to be the best performers. A reasonable explanation for these findings may be that, in Zachodniopomorskie, the main emphasis was placed on supporting fewer projects (compared to the other regions), but distinguished by a very complex range of activities. Those projects have offered a relatively broad portfolio of various services including social, cultural, and other services available to the public. Therefore, by performing the major share of commercial components in the projects, their promoters can achieve a sufficiently high profitability that not only guarantees return on investment, but also secure the costs relating to social aspects. In contrast, JESSICA funds in other regions were also allocated to projects with a very narrow scope of activities, executed mostly by public entities. They related, for instance, to upgrading the energy efficiency of buildings or establishing new or modernising existing leisure and recreation facilities. It is

obvious then, that in light of the assessment approach, they could not be highly rated due to responding positively to only a few indicators.

Table 2: Results of Dunn's test of multiple comparisons.

No.	Comparison	Z	P.unadj	P.adj
1	Mazowieckie - Pomorskie	0.9451721	3.445710e-01	3.828567e-01
2	Mazowieckie - Śląskie	-2.1461207	3.186335e-02	4.551907e-02
3	Pomorskie - Śląskie	-3.2123554	1.316514e-03	4.388380e-03
4	Mazowieckie - Wielkopolskie	-1.7618463	7.809528e-02	9.761910e-02
5	Pomorskie - wielkopolskie	-2.9552644	3.124012e-03	7.810029e-03
6	Śląskie - Wielkopolskie	0.5920039	5.538480e-01	5.538480e-01
7	Mazowieckie - Zachodniopomorskie	-4.2400152	2.235046e-05	1.117523e-04
8	Pomorskie - Zachodniopomorskie	-5.3216630	1.028229e-07	1.028229e-06
9	Śląskie - Zachodniopomorskie	-2.2021412	2.765533e-02	4.609222e-02
10	Wielkopolskie - Zachodniopomorskie	-2.9206963	3.492501e-03	6.985003e-03

* *p-values* adjusted with the Benjamini-Hochberg method

Source: own elaboration

The next set of analysis reveals whether the type of projects (revenue-generating projects and non-revenue-generating projects) or the legal form of the beneficiary[88] vary by the value of the composite indicator. We wanted to find out if a particular type of project or legal form of beneficiaries could reflect an effect on the value of the composite indicator. With regards to the Kruskal-Wallis test, we found that there are significant differences between the examined groups:

- Type of projects v. composite indicator - *chi-squared* = 95.137, *df* = 1, *p-value* < 2.2e-16;
- Legal form of the beneficiary v. composite indicator - *chi-squared* = 48.789, *df* = 6, *p-value* = 8.219e-09.

The results presented in **Figure 5** and **6** are interesting in two ways. First, both the type of projects as well as the legal form of the beneficiary matter in determining the value of the composite indicator. Second, if the individual project was a revenue-generating project, or if the project was implemented by the private entity, the value of the composite indicator is higher. Thus, projects that best reflect the priorities of the JESSICA initiative are those that are executed by private entities and possess capacities to generate revenues.

88 Research on revenue-generating projects and types of legal beneficiary of JESSICA was conducted by the authors previously. See: Musiałkowska and Idczak (2019; 2018a).

The most striking result to emerge from the data is that only one third out of all projects (55 out of 161) were implemented by private entities, and in this respect, it should be noted that only one project was implemented under the form of PPP (in Pomorskie region). Interestingly, JESSICA was to be an incentive for the private sector to engage in relatively more risky projects oriented towards overcoming market failures in deprived urban areas. In practise however, experience shows that the majority of projects (almost two-thirds) were completed by entities acting in the widely defined social and public interest, and half of which do not generate any revenues. It is then clear that projects implemented by public institutions, with a rather narrow range of actions, and with limited capacities to ensure the repayment of JESSICA loans directly from their primary activates, could not be highly assessed in comparison to better performing projects.

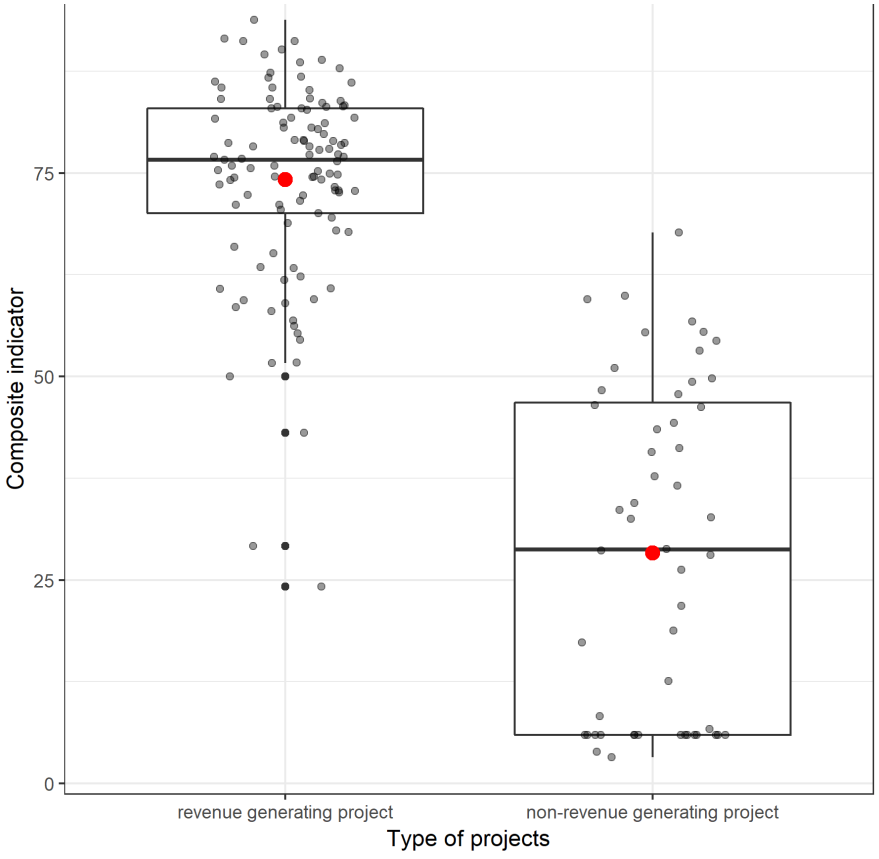


Figure 5: Relations between *type of project* and *value of composite indicator*.

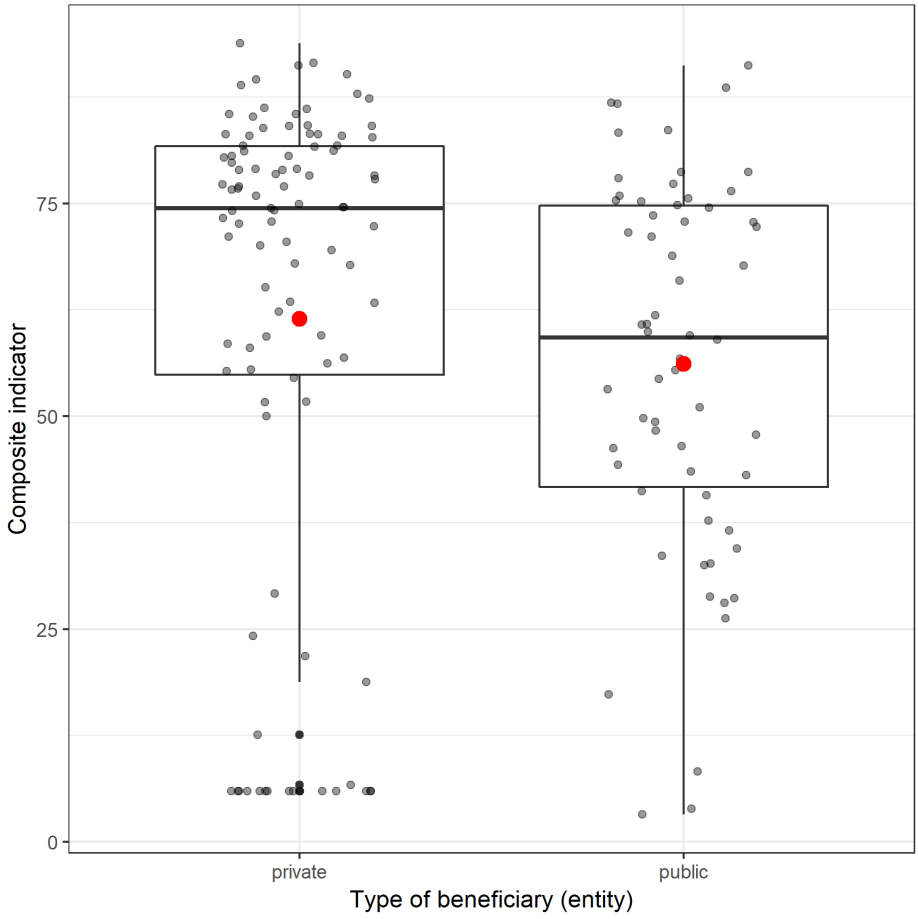


Figure 6: Relations between *type of beneficiary* and *value of composite indicator*.
Source: own elaboration.

The same procedure was conducted for the statistical link between the values of JESSICA projects, the size of the JESSICA loan, and the value of the composite indicator. **Figure 7** demonstrates how the dependence between these variables is quite strong. Projects with high value and high size of JESSICA loans are characterised by a high level of the composite indicator. It means that those projects correspond in a better way to assumptions of JESSICA and provide more public benefits for society. Significantly, these findings are consistent with the results of the study carried out by Musiałkowska and Idczak (2019; 2018a) revealing the statistical link between project capacities to generate revenues and the value of JESSICA projects.

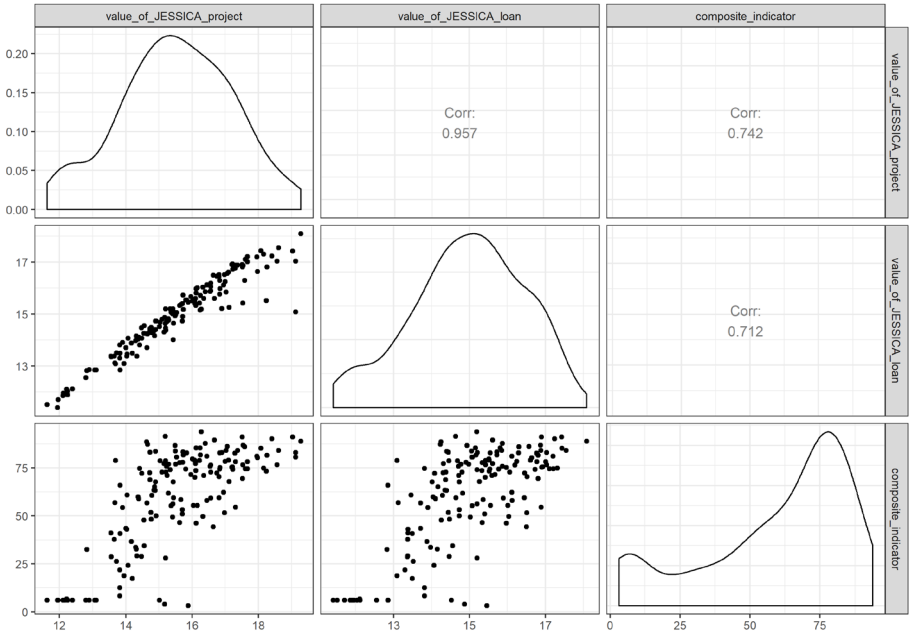


Figure 7: Relationship between the *value of the composite indicator*, the *values of JESSICA projects*, and the *size of the JESSICA loan*.
Source: own elaboration.

In essence, it is critical to emphasise that, from the point of view of this research, projects that best match the assumptions of the JESSICA initiative according to the five-dimension-assessment-model are those with high value and implemented by private investors. However, that does not mean that projects with unsatisfactory performance deriving from our research should be regarded as less important. Especially, since many of them have had a crucial role in overcoming structural barriers and stimulating regenerative measures in less-favoured urban areas, and also in applying the principles of sustainable development that are fundamental for urban cohesion. But such projects, by their nature, do not seem inherent in the JESSICA funding model, in the strict meaning of this term. They do not join all the stakeholders to work together in the spirit of a partnership (preferably public-private partnership) to make more effective use of their area's intrinsic potential. For such projects, JESSICA becomes an ordinary credit or loan (granted possibly on better funding terms) that can be repaid by means resulting from savings obtained through energy efficiency improvement measures, or simply from various external sources. Those projects do not involve private capital, and consequently do not generate capital backflows. In this sense, they do not contribute to the leverage effects and

thereby diminish the role of JESSICA as a potentially powerful instrument that can overcome existing market failures.

In contrast, the projects scoring highly in the study fit perfectly into the framework of the JESSICA initiative. This means that JESSICA support was a strong incentive for mostly private investors by providing catalytic first-loss capital to facilitate urban development operations, whilst simultaneously mitigating financial risk. Those projects lend JESSICA its ability to engage private sector, and thus to leverage both into further investment, as well as competence and expertise, in project implementation and management. They enable JESSICA to be a real revolving-investment mechanism that recycles public financial resources in order to enhance and accelerate investments in more urban areas

4.6 Conclusions

The JESSICA initiative is an ambitious attempt to contribute to sustainable development and the regeneration of European cities through the use of revolving mechanisms of EU cohesion policy structural funds. In this study, the Polish experiences presented the complexity of institutional structure (section 2), sustainable development (section 3) and the results of the implementation of the initiative (section 5). We constructed our own model of assessment of JESSICA that is based on five contexts of sustainable development in urban areas: financial, economic, social, spatial and horizontal contexts. These were then transformed into dimensions of evaluation. The results show that not all dimensions were taken into account during the phase of appraisal and then the implementation of the projects. The most represented dimensions were the financial, economic and spatial dimensions. The social and horizontal dimensions were responsible for determining whether the projects bring positive externalities to the society. Integrated approach , that aimed at removal of the main developmental bottlenecks, and was absent in some of the projects.

The approach of particular regions differed with regards to both institutional structure of the regional operational programmes that used the resources of JESSICA, and the results achieved. The Zachodniopomorskie region was the best performing region in terms of adjusting the projects' requirements to the theoretical assumption of regeneration model. The Wielkopolskie, Mazowieckie and Śląskie regions were characterised by the projects of different quality (in terms of fulfilling the assumptions) but many of the projects can be assessed as partly successful when regeneration processes are analysed. The worst performer was the Pomorskie region. This indirectly shows the diversity of the approach of UDFs towards the process of selecting projects.

Another set of results show that there is a strong correlation between the type of project, in terms of generating revenues, and the assumptions of the model (represented by the value of composite indicator). In general, the projects that

generate revenue are good representatives of the JESSICA-type interventions. The same is true for projects led by private entities. These results can lead to quite clear policy recommendation with regard to regeneration and sustainable development projects. The projects of higher value, generating revenue and coordinated by private entities, bring more results in terms of all five dimensions that are responsible for assuring the complexity of urban development. Notwithstanding, we assume that the institutional quality matters when it comes to programme and selection criteria design. However, this aspect needs further investigation.

Finally, more research is necessary to resolve some limitations facing this study. First, more in-depth investigation is needed on the range of activities of particular projects in order to precisely indicate what kind of actions respect the spirit of the JESSICA initiative adequately. Moreover, it is important to find the overall response to the question on why participation of private entities was not as prevalent in terms of number of beneficiaries, and why JESSICA has failed in establishing public-private partnerships.

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